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THE UNIVERSITY OF ALBERTA

A COMMUNITY DEVELOPMENT APPROACH FOR INTRODUCING NUTRITION PROGRAMS IN INUIT COMMUNITIES

by

© CAROL A. HUGGETT

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH

IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE

OF MASTER OF ARTS

in

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THE UNIVERSITY OF ALBERTA

FACULTY OF GRADUATE STUDIES AND RESEARCH

The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research, for acceptance, a thesis entitled A COMMUNITY DEVELOPMENT APPROACH FOR INTRODUCING NUTRITION PROGRAMS IN INUIT COMMUNITIES submitted by Carol A. Huggett in partial fulfilment of the requirements for the degree of Master of Arts in Community Development.

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Supervisor

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Date March 8, 1979

ABSTRACT

The community development process has been used successfully in underdeveloped areas and third world nations principally to help develop economic and socio-cultural aspects of communities. However, the community development process also has a role to play in the health related aspects of the community.

In this study, the problem was to adapt a community development approach making it suitable for use in health care programs, specifically nutrition programs. The objective was to formulate a model for a community development approach to nutrition programs in an Inuit community. A case study approach, using the community action to prohibit alcohol in one Inuit community, was chosen for the methodology. The data were collected from a review of literature and informal focused interviews with 15 community members. The major limitations of the study included its cross-cultural nature and the need for an interpreter.

The data were analyzed using the "Shared Process Evaluation System (Shapes)" developed by Mackeracher, Davie and Patterson (1976). This evaluation system involves the collection of data on the individuals and groups involved in the community development project; the important events which occurred; and the conceptual context of the community

development agent. The data collected were then displayed in a series of interactive matrices. In addition, the data were compared to the "Steps of Social Action" developed by Beal, Blount, Powers and Johnson (1966). These steps were designed to help change agents generalize about program planning and provided a useful comparison with the "Shapes" system. Ten relevant groups necessary to legitimate the community action to prohibit alcohol were identified. Three shared objectives held by the individual fields were noted including: (1) preventing the development of serious community problems; (2) maintaining the importance of the family; and (3) developing and maintaining the "Inuit way of life". Nine critical incidents leading to the total prohibition of alcohol were discussed. Finally, the process phases, in which the relevant fields perceived they were most active, were listed.

The results suggested that in future programs more effort should be devoted to informing all relevant fields of the goals, philosophy and strategies to be used in the community action. Also, external consultants should explain all alternatives and possible implications of a community action before action is initiated. Evaluation is also considered an important aspect which had been neglected in the case studied.

The development of the model closely followed the

"Steps to Social Action" developed by Beal et al. for achieving planned change in a community. The model discusses the need for: analysis of the social systems and situations, convergence of interest, legitimation with key leaders and diffusion sets, and formulation of goals and strategies before mobilizing resources and taking action. In addition, evaluation steps were stressed as being particularly important after each step in the process and at the end of the project to emphasize the need for continuous monitoring of the process.

Although the relevant fields and target systems may vary, it is believed the process described in this model is suitable for use in Inuit communities.

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This study would not have been possible without the kind cooperation of the community members who agreed to be interviewed and the interpreter who made herself available whenever necessary. I would like to extend my sincere thanks to these individuals for all their help.

In addition, I would like to thank Dr. A. Harvey, whose firm encouragement to proceed provided the impetus to complete this study.

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CHAPTER I

THE PROBLEM

Introduction

The community development process has been used successfully in underdeveloped areas and third world nations principally to develop economic and socio-cultural aspects of communities. Community development programs which involve community participation and decision making have been used to develop competencies necessary to achieve the larger goals of the community development process.

In areas where community development has been initiated, it is often related only to the political, economic, or socio-cultural aspects of the community. However, the community development process also has a role to play in the health related aspects of the community. Government agencies in Canada responsible for health programs have tended to concentrate their efforts on the treatment and educational aspects of health care. More recently however, attempts have been made to assist the communities to identify their health needs and areas of concern and to initiate community development programs to meet these needs.

In the Northwest Territories the Territorial Government is responsible for the development of local government

and education programs; a branch of the Federal Government is responsible for health care delivery. Community development programs begun for local government and education were not necessarily applied to health care. Within the last five years, the Federal Government has tried to encourage the development of local health committees to encourage the community to take a larger degree of responsibility for their health care and become involved in the solving of their health problems. Community development programs in the field of health care delivery increasingly may complement programs used in other disciplines and will help to improve the level of health care in the community.

The Problem

The central problem of this study is to determine how a community development approach can be adapted for use in health care programs, specifically nutrition programs, whereby present and potential health problems in Inuit communities can be alleviated or prevented.

As recently as 1958, Canadian Inuit were dying of malnutrition. Today the Inuit are not dying as a direct result of malnutrition although malnutrition is still present.

In 1958, many Inuit were still living in the traditional camps and travelling when it was necessary to obtain food. Their aboriginal diet consisted mainly of land and sea mammals and fish. This diet, although restricted, was

capable of furnishing all the nutrients essential for nutritional health, provided it was available in adequate amounts and prepared according to the traditional methods.[1] The major nutritional problem for the Inuit at this time was to obtain sufficient food to prevent starvation.

Today, the majority of Canadian Inuit live in settled communities with at least one store. The problem, today, is not one of an inadequate food supply, but inappropriate food choices. The teenagers tend to prefer fried chicken to the traditional seal meat. Soda pop is one of the largest single profit makers for food stores in the Canadian Eastern Arctic. Chocolate bars, potato chips, and candy are also sold in large quantities to Inuit of all ages but especially to preschool and school age children.

Physical evidence of present malnutrition has been found. Researchers such as Brett, Hamilton, Manning, Mayhall and Schaefer have identified sub-optimal nutrition as a factor in the medical and dental problems of the Inuit as follows: infant mortality, prolonged infantile diarrhea, suppurative otitis media, recurrent pneumonia, infectious diseases, dental carries, and obesity.[2] These represent only a few of the readily identifiable signs of malnutrition; sub-optimal signs are not as easily recognized.

Nutrition Canada's special reports on the Inuit revealed that the Inuit had nutritional problems that were not apparent in other Canadians: the amounts of Vitamin A and calcium consumed in their diet were low; the prevalence

of bleeding gums suggested the presence of a Vitamin C deficiency; and the estimated Vitamin D intakes were extremely low suggesting that rickets would become a common condition among Inuit children if their diets were not improved.[3]

The modern Inuit for the first time in their history have the opportunity to make significant food choices. Presented with a wide variety of new foods and processed convenience foods of which they have little knowledge or experience they tend to choose poorly. Until recently, the Inuit did not understand the relationship between the consumption of new foods of low nutritional quality and their declining health. They assumed the imported foods were as nutritious as their traditional diet. Consequently, the items they selected were generally of lower quality than the traditional diet and often, also, below the average quality of the Canadian diet.

Early nutrition programs were developed to help the Inuit understand the relationship between the foods they consumed and their health or poor health. These programs have met with considerable success in some Inuit communities. These communities are now requesting more information and assistance in improving the nutritional status of the community members, notably, the children and young adults.

However, nutrition information is not the total solution to Inuit malnutrition. Community members must work together to develop new methods and programs to achieve their

goal of improved nutrition for their children and community. It is believed a community development approach will help achieve a program to reduce the incidence of Inuit malnutrition. In addition, such an approach may provide a degree of competence in achieving other community goals through a process of planning and action which may be used in more complex situations.

Study Objective

The objective of the present study is to formulate a model for a community development approach to nutrition programs.

Relatively little research has been published studying the use of community development approaches in the planning and implementation of Inuit programs relating to Inuit health. Rather than apply nutrition programs developed for other groups to the Inuit situation it was decided to do a case study of a community action program in an Inuit community. The insights gained from such a case study could then be applied in a model for a community development approach to nutrition programs.

The case chosen for study was the recent plebiscite for prohibition passed in one Inuit community. This action is of particular interest as the abolition of alcohol in a community requires a majority vote of 60 percent in support of the ban before it can be enforced. Such a majority

requires an active program to educate the voters regarding the problems and alternative solutions and to encourage them to vote.

As of July 1, 1978 alcohol controls such as rationing or prohibition had been introduced in 13 communities in the Northwest Territories. These communities included: Rae Edzo, Lac La Marte, Hall Beach, Pangnirtung, Fort Franklin, Fort Resolution, Pond Inlet, Igloolik, Fort Norman, Gjoa Haven, Rae Lakes, Snowdrift, and Sanikiluaq. The process of legislating alcohol controls appears to be spreading as communities continue to request plebiscites for alcohol controls.

Significant action on the part of community members has been taken to improve their community. The methods, techniques, and processes which stimulated such action could provide a useful model for a community development program to deal with similar problems such as health and nutrition.

The identity of the community studied will not be revealed in this thesis. The information provided by those interviewed was given to assist in the introduction of a nutrition program, not to discover or expose the problems specifically related to alcohol prohibition. The community had experienced a great deal of hostility as a result of the alcohol prohibition. It was felt no purpose would be served by reopening the issue if definite action to improve the situation was not planned.

Research Questions

Four questions adapted from the perspective of Mackeracher, Davie and Patterson[4] formed the basis of the present study:

1. What or who are the potentially relevant fields* necessary to legitimate a community program in an Inuit community?
2. Which objectives held by individual fields may move them to shared activities in an action program?
3. Which critical incidents may affect the development and implementation of a community program either positively or negatively?
4. In which process phases do the relevant fields become most actively involved?

Format of the Thesis

Chapter I is intended to give a general overview of the entire thesis and show how each of the following chapters relate to the problem under study.

Chapter II will review some selected literature in the fields of community change, community development, Inuit history, and Inuit anthropology. This chapter will

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* Field - a term coined by Mackeracher, Davie, Patterson, 1976 meaning "an individual, group, subgroup, and/or institution or its representative", p. 9.

attempt to interrelate these subject areas and give sufficient background information for data analysis and model development.

Chapter III will discuss relevant aspects of Inuit nutrition, relating past and present nutrition practices to the existing malnutrition.

Chapter IV will describe the methodology: a case study of the action to prohibit alcohol in an Inuit community, using an informal focused interview of community members to collect the data. The limitations of the present study will also be discussed in this chapter.

Chapter V will discuss the community action to prohibit alcohol and analyze the data using the Shared Process Evaluation System developed by Mackeracher et al.[5] and the steps of social action developed by Beal, Blount, Powers and Johnson.[6] The data will also be displayed on four matrices entitled: Patterns of Shared Change, Patterns of Individual Change, Patterns of Field Participation, and Steps of Social Action. From the analysis of the data and the information displayed in these matrices answers will be found to the four research questions posed at the beginning of this study. The implications of these findings for future programs will also be discussed.

Chapter VI will use the findings and information of the previous chapters to develop a model for a community development approach to nutrition programs in an Inuit community. This chapter will follow closely the steps of

social action previously discussed. It will identify the relevant fields, critical incidents, and phases of the community development process which will be the most relevant and of greatest interest in the development and implementation of a nutrition program in an Inuit community.

Chapter VII will provide a general summary of the most pertinent information of the previous chapters, suggest possible areas for additional research, and discuss a few of the author's reflections on the present study.

Footnotes for Chapter I

[1] H.H. Draper, "Aboriginal Eskimo Diet in Modern Perspective," American Anthropologist (June, 1977), p. 309.

[2] B. Brett, W.C. Taylor, D.W. Spady, "N.W.T. Perinatal Infant Mortality and Morbidity Study: Infant Mortality in the N.W.T., 1973", Circumpolar Health, ed., R.J. Shephard and S. Itoh (Toronto: University of Toronto Press, 1976), pp. 435-440; J.R. Hamilton, "Intractable Diarrhea in Infancy," Nutrition of Indian and Eskimo Children, Report of the Second Ross Conference on Paediatric Research, ed., J.C. Haworth (Montreal: Ross Laboratories, 1976), pp. 136-146; P.J. Manning, "Nutritional Basis of Otitis Media," Nutrition of Indian and Eskimo Children, ed., J.C. Haworth (Montreal: Ross Laboratories, 1976), pp. 151-154; J.T. Mayhall, "Dental Carries and Nutrition," Nutrition of the Indian and Eskimo Children, ed., J.C. Haworth (Montreal: Ross Laboratories, 1976), pp. 155-162; and Otto Schaefer, "When the Eskimo Comes to Town," Nutrition Today, Vol. 6, No. 6 (November/December, 1971), pp. 8-16.

[3] Department of National Health and Welfare, Dispatch (Spring, 1975), No. 37.

[4] Dorothy Mackeracher, Lynn Davie, and Terry Patterson, "Community Development: Evaluation and the Shapes Approach," Journal of Community Development Society, Vol. 7, No. 2 (Fall, 1976), pp. 4-17.

[5] Ibid.

[6] George M. Beal, Ross C. Blount, Ronald C. Powers and John W. Johnson, Social Action and Interaction in Program Planning (Ames, Iowa: Iowa State University Press, 1966), pp. 75-89.

CHAPTER II

LITERATURE REVIEW

Introduction

The topic presently under study draws on the literature of three subject areas. These include community change, community development, and Inuit history.

A review of community change and community development literature permits the identification and development of concepts necessary for the analysis of these processes in an Inuit community. The specific aspects addressed will include the sources of community change as discussed by Warren and Ogburn;[1] the concepts of planned change suggested by Jones, Nelson and Warren;[2] approaches to community development developed by Beal *et al.*, Cary, Thomas, and McClusky;[3] and the evaluation of community development programs as demonstrated by Mackeracher *et al.*[4]

A study of Inuit history allows an understanding of the Inuit way of life and an awareness of the social change which occurs as a result of technological change. In this chapter three periods of Inuit history will be discussed; the aboriginal period, the contact traditional period, and the centralized period.

Community Change

Extensive technological changes occur daily in modern industrialized nations. These changes are having a major impact in the Canadian Arctic and are telescoping the developments of many centuries of industrialization into an individual's lifetime. For example, 30 years ago the majority of the Canadian Inuit lived in isolated camps and used dog teams to travel and hunt for their food. They were dependent on their own ingenuity and expertise for their survival in the harsh Arctic environment. Modern technology now allows Arctic adventurers, such as the recent Japanese expeditions, to experience the challenge of the Arctic with minimal risk. Food can be flown to caches along the route. Frequent radio contact can be established with nearby settlements and air evacuation can be arranged at any time.

Technological change has come rapidly to the north. Today this change is expected but the associated sociological changes are often unexpected and traumatic.

Sources of Community Change

It has been suggested by several authors that change is inevitable and that its effects multiply. Nelson states "Once change has begun and there is movement away from the sacred-folk community, the problems created by the original change multiply, and as adjustments are made, they multiply again."[5]

The reasons for change are categorized differently by various authors and yet a similarity remains. Poplin suggests the majority of changes in communities are a result of urbanization which in itself is due to an increase in agricultural technology and improvements in transportation and communication. With the increased use of media such as newspapers, television, radio, and motion pictures, the urban way of life is communicated to the rural areas, reducing the differences between the urbanite and the ruralist. Poplin suggests there is an intimate relationship between community change and community problems and that community problems can only be solved by further planned social change.[6]

Nelson categorizes community change into four sections: change in size, change in physical environment, increased contact with mass society, and change in the institutional makeup at the pan-community level.[7]

Warren sees the majority of community changes as adaptive change rather than planned change:

> Most of what is called planned social change is a relatively modest response to... larger changes that are taken as given [e.g., suburban growth, industrial growth, increasing automation], and are not the result of concerted, deliberate, centralized decision making. Unemployment insurance is instigated to meet the contingency of unemployment, rather than to prevent it; city planning commissions take adaptive measures in view of such changes as population decline in the central city, suburban growth, new industrial location patterns, and the commuting phenomenon; social services are developed to help families whose individual lives dramatize the results of some of the larger changes.

> As organizations and activities are thus set up to adapt in part to the largely uncontrolled changes that take place, these organizations themselves become part of the changing scene. In their activities, they may compete with each other in undesirable or wasteful ways, or they may leave gaps in available service, or their aggregate endeavors may not be adequate to accomplish their adaptive objectives. Thus, one particular field of planning has to do with establishing some minimum of purposive order among such adaptive organizations. Much of what is called planned change at the community level is of the adaptive type, rather than of any fundamental type that would change or redirect the major flow of events.[8]

Warren also notes that the changes occurring in communities can be grouped together under concepts such as modernization, urbanization, industrialization, and development.[9] Thus while the names of the categories differ between authors certain points are emphasized notably urbanization and industrialization.

A. "The Great Change" (Warren)

Warren has looked at community changes as part of a progression of several different changes. He refers to this progression as "The Great Change".[10] The first major change is the progressive division of labour leading to functional interdependence. This change marks the beginning of the community's tendency to move away from self-sufficiency and towards an intricate network of interrelated parts of a productive system. This division leads to the individual and community dependence on a monetary system. In addition, a psychological change occurs as a result of the difference between working on aggregate tasks and work-

ing on fragments of tasks. The division also results in a differentiation of interests and associations.

Concomitant with the division of labour is the growth of strong relationships of people to systems which extend beyond community borders. Strong links develop with extra-community occupational and interest groups. There is a decline of the locality as a central focus of association and the growth of other foci of associations such as employment in the same company, membership in the same union, similar religious beliefs, or common interest groups. This has the resultant effect of decreased interaction between community members and a decrease in the control exerted upon a member by the community.

Changes in family living also develop: male, female and parental roles are altered. The nuclear family develops; it loosens the ties of the traditional extended family to allow the development of new ties to business and interest groups.

Organizations develop strong extracommunity organizational links: stores become part of large chains, voluntary associations join with federated appeals, and government organizations align themselves with higher levels of government.

There is a growth of bureaucratization and impersonalization. Changes operate to weaken ties based in kinship, custom, and common residence. There is a development of modes of association based on rules, contract, formal

organization, and comparative anonymity, rather than on custom, face-to-face relations, common pursuits, homogeneity and shared values. The community merely reflects modifications made at the higher regional and national levels. There is development of large-scale organizations: governmental agencies, industrial conglomerates, labour unions, voluntary associations, educational organizations, political parties, and religious groups.

Concomitant with the development of large scale organizations is the transfer of functions formerly performed by the family, neighbourhood, and local community, to voluntary organizations, profit enterprises, and governmental agencies. There is an increase in the organized effort to achieve social objectives.

Concurrent with all the above changes are changes in the size of communities. Changes in size may be due to heavy immigration to an area of new industry or movement from an area with declining occupational opportunities. Resettlement projects both urban and rural also affect the community. In addition, there may be a population redistribution within various groupings in the community such as age groups, socio-economic groups, racial or cultural groups. Cities and suburbs continue to grow as people migrate from areas of low economic opportunity to areas of higher economic opportunity. This movement is also accompanied by a rise in the urban slum population.

With changes in community relationships changes in

values may develop. There is a greater acceptance of government activity and less emphasis on self-sufficiency. There may also be a change from a moral interpretation of human behavior to a casual one; with a consequent change in approaches, to social problems from sporadic moral reform to gradual rational planning. One of the major changes in western society and communities has been a change in the acceptance of the protestant work ethic -- the emphasis has shifted from work and production to enjoyment and consumption.

B. "Cultural Lag" (Ogburn)

Nelson in discussing the components of social change refers to Ogburn's "cultural lag"[11] reminding us that adjustment to change occurs more readily in the material than non-material cultures. The "cultural lag" adds to the problems of communities attempting to adjust to change because they often apply outmoded concepts to new technology thus reducing their effectiveness in the change process.

Concepts of Planned Change

Community change concepts are usually considered subsections of the major theories of social change: evolutionary theories, equilibrium theories, and conflict theories to mention only a few. It is doubtful if any single theory has been developed specifically to explain community change. Hypotheses, suggestions, models and examples of

community change have all been presented with varying amounts of success. In this section a sampling of the concepts of community change will be presented.

A. Organizational Change

Jones studied planned organizational change, including community change. He tried to isolate, identify, define, and classify the significant elements in change; to learn how these elements could be operationalized by professional change agents. He developed a concept of logical relationships according to the "actor-action-goal" in change situations. Two primary actors, the change agent and the client system; and two secondary actors, the change catalyst and the pacemaker are identified. Six basic fundamentals and elements of planned organizational change are listed: (1) change agent, (2) client system, (3) goals, (4) strategies and tactics, (5) structuring of change, and (6) evaluation.[12] He states the final objective of planned organizational change is a new state of equilibrium for the proper functioning of the organizational system:

> [In] such a state, the individual in the organization is more able to find psychological security because of the absence and/or reconciliation of conflicting values, beliefs, and attitudes.... Built into the change state, if it did not exist previously, is a tendency toward movement (change), development, and growth.[13]

B. Purposive Change Processes

Warren gives an interesting interpretation of purposive

change. He suggests that any community action may involve a number of purposive change processes and that

> ...these processes vary on a number of identifiable dimensions, such as degree of value consensus, relation of the change system to the existing power configuration, relation of the change system to the target population, and the timing of the proposal if there is one.[14]

Warren also describes three issue situations: issue consensus, issue difference, and issue dissensus. Issue consensus is when the change agent is confident of substantial agreement among the principal parties. Issue difference is when the change agent does not have agreement among the principal parties, but expects to get it. In issue dissensus there is no agreement and none is expected.[15]

Warren lists three strategies of change: collaborative, campaign and contest. He suggests collaborative strategies correspond to issue agreement situations and are based on the assumption of a common basis of values and interests, through which substantive agreement on proposals is readily obtainable.

Campaign strategies correspond to issue difference situations in which the change agent needs to persuade differently minded people that his proposal should be adopted. Contest strategies correspond to issue dissensus situations. These strategies are characterized by the abandonment, at least temporarily, of efforts at consensus. They involve employment of efforts to further one's own side of an issue despite opposition from important parties to that issue.[16]

In conflict situations Warren recommends that a certain "dynamic pluralism"[17] be developed. He suggests it is not necessary for one party to be totally correct and the other totally incorrect, the answer lying somewhere between these two extremes. He suggests there should be a mutual give-and-take in the search for a solution acceptable to both sides. However, when such a solution is impossible the problem must still be faced directly:

> We need mechanisms that will permit and channel the seeking of agreement, but will not suppress important parts of the whole picture in the name of an illusory consensus. We need mechanisms that will fall short of satisfying every party to every controversy, but which will assure the right of the dissatisfied to be heard and to continue their efforts to persuade the rest of us.[18]

Nelson feels the processes most often discussed are: cooperation, conflict, competition, accommodation and assimilation.[19] He suggests community development programs are deliberate efforts to bring about social change.

There is some agreement among these authors as to the elements and steps necessary in planned change. Jones' six fundamental elements (1) change agent, (2) client system, (3) goals, (4) strategies and tactics, (5) structuring of change, and (6) evaluation seem to reflect, at least in outline form, the suggestions of other authors. It is in the content of each of these elements that most authors differ. Perhaps these differences reflect the biases resulting from each author's own particular field of interest and past experiences.

The area in which there appears to be the greatest difference of opinion is the strategies and tactics used to achieve changes. A sampling of the various strategies have been grouped according to their similarities (see Table 1). A short description accompanies each grouping. In my opinion these groupings could be listed on a continuum with groups A and B the least acceptable strategies for community change and groups C, D, and E the most acceptable depending on their appropriateness to a community situation.

C. Models of Change

Warren presents two models of social change which suggest the range of programs possible within the realm of planned change. The first model is the "abstract-rational model"[20] in which the planning is abstract in the sense that it confines itself to the technical problems to be solved. It abstracts the technical aspects from the total problem involved in rationalizing decision making, for it does not seek to rationalize these social factors, but to ignore them or accept them without analysis. This procedure is usually conceived in relation to specific programs either self-contained or to be followed by other plans for additional, related programs. The planning proceeds in discrete units, rather than a continuous process and is final state oriented. The action systems and the planning systems do not coincide. Finally, the abstract-rational decision making tends to be monistic in the sense

TABLE 1*

STRATEGIES IN COMMUNITY CHANGE

Group	Strategy	Author	General Description
A.	Coersive	Jones	Attempting to control, may use violent tactics
	Conflict	Nelson	
	Contest	Warren	
	Competition	Nelson	
B.	Utilitarian	Jones	Attempting to control by non-violent tactics
	Normative	Jones	
	Assimilation	Nelson	
C.	Campaign	Warren	Attempting to reach a workable solution by give-and-take tactics
	Accommodation	Nelson	
D.	Cooperation	Nelson	Working together towards mutual goals
	Collaborative	Warren	
E.	Dynamic-Pluralism	Warren	No agreement possible, but attempting an understanding and acceptance of differences

* This table was developed by the author in the process of integrating the different viewpoints of the authors cited in the text.

that the planning body must establish exclusive control over the major components of the planning area. Jones' organizational change would be similar to this model.

Warren's second model the "concrete-processual model"[21] proposes a planning model that incorporates the social and political acceptance and implementation into the making of the plan itself. Such a model requires a concrete type of planning, in that the technical problems to be solved are not abstracted out of their full social situation but are viewed as parts of the total configuration, including both technical and social process components. It would include processual components, and would be a continuous planning process, and present state oriented. The planning body and the action system would tend to coincide; the concrete-processual model tends to be pluralistic.

Warren suggests both these models are imperfect -- The "concrete-processual model" of planning accommodates the processual components but consequently gives up rational calculation and the "abstract-rational model" has the opposite problem. These contrasting models should be helpful, in reminding us of the important alternatives in the planning process. However, what is needed is a combination of the two models, notably, an inclusion of rational calculation in the concrete-processual model.

Planned change has within it three major organizational divisions: City Planning, Community Organization, and Community Development. City Planning may be considered

the process by which cities and metropolitan areas are rehabilitated, renovated, and guided in their future development as physical entities.[22] Community Organization is usually considered the branch of social work which is concerned with, as McNeil states, "...bringing about and maintaining a progressively, more effective adjustment between social welfare resources and social welfare needs within a geographical or functional field."[23] Community Development is concerned with assisting the efforts of community members to achieve the goals they desire for themselves. As a division of planned change, community development has perhaps the greatest potential for achieving its objectives; this will be discussed further in the section entitled Community Development.

It can be seen from the discussion that communities are constantly changing and the rate of change is rapidly increasing. What is not as clear is the direction and consequences of this change. Communities have been adapting to change for centuries, some fail and others succeed by making appropriate plans to incorporate the changes. The majority of communities experience a "cultural lag" which is a result of their non-material culture changing more slowly than their material culture. This "lag" may have psychological effects on the community if it produces a constant state of "coping" rather than "planning".

Planned change organizations have been developed in an attempt to direct change and make it more managable for

the average community. Planned change in the organizational sense of city planning, community organization, and community development also have experienced problems and have been attempting to evaluate and reorient themselves to the changing needs.

Communities are changing and the concepts of purposive change including those of community development must also change to meet the needs of these new communities.

Community Development

Community development, as discussed earlier, is the organizational division of planned change which is concerned with assisting community members to achieve the goals they desire.

An exact definition of community development has not yet been established. The United Nations definition is as follows:

> Community development is the process by which the efforts of the people themselves are united with those of the governmental authorities to improve the economic, social and cultural conditions of the community, to integrate these communities into the life of the nation and to enable them to contribute fully to the national progress.[24]

Biddle and Biddle define community development as "a social process by which human beings can become more competent to live with and gain some control over local aspects of a frustrating and changing world."[25]

Mackeracher, Davie, and Patterson after reviewing 200

definitions of community development conclude that "community development is a process, a means for accomplishing something (an end)."[26] They suggest "process" is a poorly defined term but use as a working concept Beal's and Powers' description of the three characteristics of a "process":

1. a concept of movement, change, flux;
2. a sense of time sequence; and
3. the "dynamic" aspect of social change.[27]

Compton suggests the "community development process" is a "series of stages from very simple problem solving to applying the competence gained to more complex situations through which people and communities progress in achieving objectives and effecting change."[28]

Mackeracher et al. also state

> ...definitions agree the process of community development should move the community and its members towards goals which have been defined by the community and not outsiders. Citizens should participate in most, if not all, aspects of the process....[29]
>
> Finally, if community development is based on citizen participation and communally-defined objectives, then effective community development must include some degree of coordination and shared activity among the individuals, groups, agencies, and institutions involved.[30]

Mackeracher, Davie and Patterson further suggest that there are at least three basic ways to conceptualize "development" in the community context:

1. Development can be viewed as change in the resources of the community. These can be evaluated in quantifiable terms and measured directly. Economists and politicians traditionally take this perspective.

2. Development can be viewed as change in the problem solving and decision making processes and structures of the community. These are often defined in power, group, or sociological terms. Community change agents traditionally take this perspective.

3. Development can be viewed as change in the competencies of individual community members which are assumed, in turn, to affect the total community. Individual community members traditionally take this perspective.[31]

It can be seen that each of these types of development would require a different methodological approach. Consequently, many approaches to community development have been devised each designed to meet the identified needs of the community and community development agency or agent. In the following section a few of these approaches will be discussed.

From the writings of the authors cited I have selected as the most significant elements of community development the following:

1. Change processes, occurring over an extended period of time.
2. Improvement in the economic, social and/or cultural conditions of a community.
3. Community defined objectives or goals.
4. Citizen participation.
5. Coordination and shared activity in problem solving by community members.

Approaches to Community Development

A variety of approaches have been used to try and

incorporate all or a number of the community development elements previously discussed.

Hoffer, in discussing social action in community development, suggests that social action follows logically from earlier programs focusing on community organization because "even if a community were organized, development did not occur unless there was social action to achieve a definite goal."[32] He categorizes the action process in a community structure into three components: (1) initiation of action, (2) legitimation of action, and (3) the execution of action.[33]

Social action as an aspect of program planning in a community is also discussed by Beal, Blount, Powers and Johnson. These authors have developed a 34 step process for achieving planned change in a community. Their objective is "to provide specific insights, hypotheses, and generalizations about the process of program planning."[34] Social action theory may prove useful in the analysis of a program to be aware of specific events which may influence the outcome of that program.

A. Steps of Social Action (Beal et al.)

The following are general descriptions of the 34 steps of social action developed by Beal et al.[35]

Step 1: Analysis of the Existing Social Systems. To be effective change agents must have an understanding of the general social system within which the social action

will take place; the means and activities, norms, status-roles, and the power distributions in the general social system and major subsystems.

Step 2: Convergence of Interest. Social action begins (often initiated by a change agent) when the interest and definition of need of two or more people concur and the decision is made to act.

Step 3: Evaluation. Evaluation should consist of four subsections: (1) evaluation of past actions, (2) decisions as to the next logical step, (3) plans to implement the decisions, and (4) action. All odd numbered steps, three to 31 inclusive, have been designated evaluation steps to emphasize the importance of constant evaluation throughout a social action program.

Step 4: Prior Social Situation. Planning groups should understand the relevant elements of the prior situation in order to have a basis for effective planning and action. Relevant elements include patterns of leadership, power relations, status-roles, expectations, beliefs and sentiments; patterns of communication, cooperation, and conflict; and organizational methods and structures. These elements may have been used to develop or influence past programs and will consequently influence present programs.

Step 6: Delineation of Relevant Social Systems. Most action programs do not involve all the subsystems of the general system in which the action takes place. Therefore, it is necessary to delineate the subsystems most relevant

to the action program under consideration. Relevancy can be determined using the following criteria: (1) the subsystems are members of the target system, (2) subsystems represent the needs and interests of the general social system or the target system, (3) the subsystem has powers of program legitimation, and (4) the subsystem will be involved in the planning, sponsoring, and/or implementation of the program.

Step 8: Initiating Sets. The initiating set is a group of people (including change agents previously involved) interested in consulting with key leaders of the relevant social systems; it is organized to perform the sounding-board, consulting, and legitimation functions.

Step 10: Legitimation with Key Leaders. In most social systems there are usually certain key people that have the power of giving sanction (legitimation) for action. Legitimation consists of consultation with the formal and informal leaders of the groups and agencies which are the relevant social systems.

Step 12: Diffusion Sets. People who can provide the resources needed (time, communications skill, organizational skills, etc.) must plan activities which will give opportunities for the relevant social systems to express felt needs in relation to the problem.

Step 14: Definition of Need by the More General Relevant Social Systems. The activities of the diffusion sets attempt to accomplish broad involvement of relevant indivi-

duals, groups, and publics.

Step 16: Commitment to Action. At this stage, it is important to get not only agreement that a problem requiring action exists, but also a commitment from the target system to take action.

Step 18: Formulation of Goals. Group objectives or goals must be set up and formalized by the more general target system or group to whom this authority has been delegated.

Step 20: Decision on Means to be Used. The alternative means and methods which may be used to achieve the group goals must be explored and a decision made as to which ones will be used.

Step 22: Plan of Work. A specific series of actions must be planned and described: organizational structure, designation of responsibilities, training, timing, planning of specific activities among others.

Step 24: Mobilizing Resources. Resources must be obtained, organized and mobilized specifically to implement the plan of work.

Steps 26, 28, 30, 32 (more if needed): Action Steps. Implementation of the action steps as established in the plan of work.

Step 34: Continuation. Often after the final evaluation additional actions are formulated in terms of goals not satisfactorily accomplished, or as extensions of actions consistent with long-range goals.

These steps of social action were developed to help change agents understand and generalize about program planning; they appear to incorporate all the elements listed as components of community development. However, at the end of this process of social action there is little to suggest the community would have developed the skills necessary to implement a similar program without the assistance of a change agent.

Warren in discussing the two models of social change, the "abstract-rational" model and the "concrete-processual" model, suggests that traditionally community development has tended to function following the "concrete-processual" model paying close attention to process and somewhat neglecting rationality.[36]

More recently community development workers have found it is not as simple to obtain community participation and achieve community goals. There are too many conflicting ideas and objectives among community members. Consequently new directions are being examined in community development. Warren discusses several of these new directions:

> It is pointed out that there is no single set of community goals, but that various individuals and organizations have different goals, which often conflict with each other; and that it is precisely the most important and pressing issues about which people are divided, rather than united. To act only in consensus is to immobilize oneself.
>
> Likewise, the change agent is not alone in his efforts... he is competing with other change efforts with different sets of goals and priorities. He is competing for the time of busy people, often powerful decision-makers; he had better know what he wants and how to express it.

> Further, since so much effort nowadays is based on temporary ad hoc coalitions around specific issues, the idea is to get together and get the task accomplished; training for community competence in any other sense than getting the job done often seems beside the point.
>
> Likewise, the various concerns of the community are so comprehensive that an organization which seeks to play a vital role must most likely limit itself to one or a few subject areas rather than spreading itself thinly over a number of areas in which much stronger groups are likely to be involved, with higher stakes in the outcome.[37]

Warren further suggests that as community development workers become more adept at recognizing the needs of the community and collaborating with community members to reach mutual goals community development will become a more realistic and efficient division of planned change.

Mackeracher, Davie, and Patterson also recognize the diversity of interests in a community and have consequently found it necessary to define the community and the community subgroups in order to achieve an accurate assessment of community participation:

> Community is used to describe any collectivity of individuals, groups, subgroups, and/or institutions or their representatives which share time, space, and resources over an extended period, in some endeavour of mutual concern. We have used the term "field" to describe various parts of a community. A field is an individual, group, subgroup, and/or institution or its representative(s). A field must function within the community development project as if all members shared common goals and as if they were committed in their actions to reaching those goals.[38]

Beal, Warren, and Mackeracher have all identified the need for a community development agent to identify the various fields, subsystems, and/or related subject areas,

but to concentrate their efforts in the appropriate target systems.

The steps of social action provide one conceptual approach to social action or community action. Richardson after reviewing the literature has identified three additional approaches to Community Development which he feels would be suitable for use in the Eastern Arctic: (1) Cary's community approach, (2) Thomas' special purpose, problem-solving approach, and (3) McClusky's information self-help approach.

B. The Community Approach (Cary)

> Lee Cary stresses three distinctive features of the community approach to community development: (i) "the fullest participation of citizens in determining and solving their own problems through democratic procdures and indigeneous leadership"; (ii) "the focus is on unit-loyalty, collective identity and place" -- that is -- the concept of community is paramount; (iii) "the holistic nature of the concern".... On the long-term basis, over time, this approach offers much for the Eastern Arctic.[39]

Richardson feels this approach is possible in the Eastern Arctic because the communities are generally small. However, in many communities there are a large number of "fields" with divergent interests and this holistic approach is becoming increasingly difficult as new changes affect each community. This approach most closely resembles Warren's "concrete-processual model" of social change, in that it stresses the process but appears to have little rational planning.

C. The Special Purpose, Problem-Solving Approach (Thomas)

> Richard Thomas' approach to community development, that of special-purpose, problem-solving, is based primarily on a solution of issues, rather than on an holistic community-wide approach. As such, this approach can be viewed as short-term, generally for the solution of an immediate problem. Thomas sets down the five main steps in this method as: (i) identification of a problem; (ii) mobilization of the requisite resources; (iii) planning of the program; (iv) activation of the program; (v) evaluation of the program (Thomas, 1973: 42-43). To the extent that most communities plan on the short-run, and that most citizens are more prone to grasp individual issues rather than holistic conceptualizations, this approach is a pragmatic one. In addition, experience indicates that this method would be more favourably received by governmental agencies, since it is more conducive to immediate concrete returns.[40]

This approach incorporates the general concepts behind the 34 steps of social action developed by Beal et al., and could be considered to follow the "abstract-rational model" of social change discussed earlier in that it appears to concentrate quite heavily on the rational aspects rather than on the processual aspects.

D. The Information Self-Help Approach (McClusky)

> Howard McClusky's approach to community development is a simple and economical process. It hinges on the proper and productive use of information and is both educative and organizational in form.... This approach can be applied to the solution of an issue, and will often result in the establishment of a program. Some of the advantages to be found in this method, apart from being financially economical, would be that it helps to develop a sense of community within the individuals involved in the process; and that it helps to develop skills for coping with the difficulties of working within community processes.
>
> One can see where, in northern development, this approach can be applied to problem-solving for immediate results....[41]

The special purpose, self-help approach incorporates aspects of both the "abstract-rational" and "concrete-processual" models of social change. It can involve rational planning and accomplish a desired result; it stresses the importance of the process in community development. This approach also illustrates that the community development process is intimately associated with a community development program.

E. Community Development Programs

Community development programs are usually considered to be a part of the larger and more involved community development process. A program allows the community or field to realize their potential and to identify the elements of the process that must be developed in order for them to identify and achieve their future goals. A program can be considered a short-term version with visible goals of the longer-term community development process.

Mackeracher, Davie, and Patterson describe a community development program as follows:

> A community development project [program] is a series of activities involving some or all of the fields, which has a reasonably distinguishable and describable beginning point in time and goals which can be articulated. These activities involve interactions among fields which can be described in process terms. Activities which are clearly distinguishable and which stand out as essential to the ongoing processes are defined as "critical incidents". A critical incident is usually a meeting, a series of planning activities, or an implementation activity.[42]

Innumerable community development programs have been

reported in the literature. However, it is often difficult to measure the relative success of these programs. Many projects are consequently evaluated solely on their achievement of the specified end product, for example, was the bridge built? the school completed? or were the voters all registered? This type of evaluation gives little indication as to how effective the program or project was in achieving the larger goals of the community development process.

Evaluation of Community Development Programs

Beal emphasized the importance of evaluation in the change process. However, the aspects of evaluation he discussed related specifically to his 34 steps to social action.

Mackeracher, Davie, and Patterson have developed the "Shared Process Evaluation System (SHAPES)"[43] which they believe allows the events of any typology of the community development process to be evaluated:

> SHAPES is a descriptive evaluative system which collects data on (1) Who was involved in a community development project; (2) Which critical events occurred; and (3) The conceptual context of the community development agent. Then these data are displayed in a series of interactive matrices. From these evaluative questions might be asked.[44]

SHAPES was developed to meet the need for a "process-oriented evaluation tool for community development projects". The SHAPES approach allows a community development agent to assess the effects of his interventions and gain a clearer understanding of the patterns of activity in which he is involved.[45]

A. SHAPES Categories of Activities

The SHAPES system has selected a process description which discriminates six general categories of activity:

Pre-Identification of Needs Phase:

1. Involves disorganized activities in which there is no sense of commitment to shared objectives, no community coalescence, and no shared process. The disorder is related more to fields working at cross-purposes or independently, and to general dissension, than to lack of planning.

Pre-Action Phases:

2. Identification of Needs: activities which provide fields with an opportunity to hear opinions from other Fields and to gather facts about the community, and which provide a sense of shared progress toward the identification of individual and shared community problems.

3. Objective Setting: activities which allow fields to come to some agreement about community goals (desired ends) and which provide a sense of shared progress and commitment to finding the means for reaching those objectives.

4. Planning: activities which allow fields to come to some agreement about the means to be used to reach community objectives and which provide a sense of shared movement toward those goals.

Action Phase:

5. Involves activities which allow delegated fields to implement the means agreed on and which provide a sense of concrete and specific action and movement in the direction of shared objectives. Community fields can share a sense of accomplishment even if they do not participate directly in the action steps.

Reaction Phase:

6. Involves activities which allow fields to evaluate the action steps and reassess community needs, objectives, and plans based on what has occurred to date. Seen in this perspective, the reaction phase is formative and prescriptive and usually

> leads directly back to need identification. For communities which terminate their shared existence or for fields which terminate their involvement in the community, this reaction phase is seen as summative and descriptive.
>
> We assumed that most communities would proceed through these various activities in a linear fashion over time, with possible repetitions of the pre-action phases in small cycles before the major action phase. We further assumed that not all fields would be involved in all phases and that those directly involved in the action phase might be a small, specialized group of delegated and representative fields.[46]

B. SHAPES Data Collection, Summary, Display and Analysis

The SHAPES system[47] gathers the following data: (1) identification of fields involved, (2) description of community objectives, (3) general outline or history of the project, (4) description of the objectives of individual fields, (5) detailed description of the project by individual fields, (6) description of the process phases by individual fields, and (7) description of the products of the process.

Data relevant to the process is gathered by intensive interview with each major field identified. The information is recorded and collated chronologically on completion of all the interviews.

The data from the individual fields is collated and displayed on three large matrices: (1) Patterns of Shared Change, (2) Patterns of Individual Change, and (3) Patterns of Field Participation.

The visual "pictures" provided by these matrices "can

be used to consider what process has actually occurred and how effective it was."

Variations that occur in basic patterns provide important information regarding events that have occurred. These variations often indicate stress which has the potential for either negative influence on the project or positive learning and change. The fields involved must be able to detect such stress in order to use it for positive gains. A thorough examination of objectives, perceptions, and assumptions is indicated when a stress pattern occurs.

The SHAPES system has also identified two patterns which indicate lack of progress in development terms:

> These occur when two sets of fields hold different objectives which both appear to be satisfied by the same set of activities but where no shared objective is described. They also occur when the process pattern appears regular and satisfactory but the products are not of the desired quality or quantity.[48]

It must be recognized that the SHAPES system does not satisfy all the evaluative questions related to community development, however it does have several positive aspects. It does not make value judgments based on external criteria, but rather displays the shared perceptions of participants. It is viewed as neutral even if the information it displays is negative. It allows agents an insight into the process which goes beyond their own observations, as these are limited by personal bias and involvement.

In summary the community change and community development concepts considered most useful for the present study

include: Warren's concept of the "Great Change"; Ogburn's "Cultural Lag"; Jones' six elements of planned organizational change; Beal et al.'s 34 steps to social action; and the Shared Process Evaluation System presented by Mackeracher, Davie and Patterson. Warren's "Great Change" provides a framework to study the extent and complexity of community change in an Inuit community. Ogburn's "Cultural Lag" explains why Inuit communities may find it difficult to adapt to an increasing number of technological changes. Jones' six elements of planned organizational change and Beal et al.'s 34 steps to social action provide a check list of elements to be considered in the preparation of a community development approach to nutrition programs. Finally, the Shared Process Evaluation System developed by Mackeracher, Davie and Patterson provides an analytical tool which can be used in the interpretation of the data gathered in the community under study. These concepts will provide the theoretical basis for the model of a community development approach to nutrition programs.

History of Inuit Communities

The population of interest are Inuit communities and therefore a brief background of their history will help to support the development of the research.

> ...the protective shields of ice and cold, of distance and of cost no longer stand as impassable barriers to the north. And as they have ceased to hold the rest of the world at bay, the full force of our methods and machines, of our mores and our manners,

> and of our standards, whether of ethics or of material existence, has struck the north and its people.[49]

In 1964 there were approximately 60,000 Inuit living in the Arctic. These people are found in Greenland, Northern Canada, Alaska and Siberia.[50] Immediately prior to the arrival of the Europeans it is estimated there were 22,000 Inuit in Canada. Today there are approximately 16,000 Inuit in the Northwest Territories.[51]

In this section we will discuss briefly the arrival of the Europeans, several of the changes they introduced and the consequences of these changes for the Inuit.

Taylor comments on the speed with which change occurred in the Arctic:

> From the archaeology we see 5,000 years of survival in an extremely harsh environment, survival by means of a flexible, yet tradition-centered, culture that was highly responsive to environmental change and variation, but rather little affected by foreign influences... change was gradual, and basically a matter of more, and better adapted, of the same kind of thing. After the 18th century, however, Arctic culture change greatly increased in rate, extent, intensity and, even, in direction. The Eskimo's heritage, so admirably suited to his traditional life, could scarcely prepare him for the overwhelming and very foreign changes of the 20th century.[52]

When Martin Frobisher landed on Baffin Island in 1576, the Thule people shot him in the buttocks.[53] These Thule people were the direct physical and cultural ancestors of the present Inuit. They were hunters of the large bowhead whales; and lived on the coasts, close to the whales' migration route. These people lived in large, permanent, winter villages of sturdy houses made of whale bones, sods

and stone slabs.[54]

Early in the 18th century, however, the Europeans began to learn of the large number of whales in the Arctic and by the mid-1860's the bowhead whales were extremely scarce. Taylor suggests the collapse of whaling in the Canadian Arctic explains much of the decline in the Thule culture.

With the decline in their food resources the Thule were forced to abandon their permanent homes and larger villages, and take up a more nomadic life, hunting the smaller and more scattered seal and walrus. This change to a nomadic life required a much wider use of the less permanent snow house and snow house village in winter.[55] In time the Thule people disappeared and were replaced by the present Inuit.

Damas divides the history of the present Inuit into three periods: (1) the aboriginal, (2) the contact-traditional, and (3) the centralized.[56]

The Aboriginal Period

According to Damas, during the aboriginal period the Inuit met mainly whalers and exploratory parties looking for the Northwest Passage. The explorers often employed the Inuit as guides and interpreters, but the traditional technology, economy, ideology, and social organization remained intact. Damas describes this organization:

> The aboriginal Central Eskimo groups followed a uniform pattern of combining and splitting which was

> harmonious with the seasonal hunting cycle. Groups averaging about 100 individuals gathered on the sea ice in winter for breathing-hole sealing. These gatherings, which lasted for periods of up to five months, represented the annual assemblages of Central Eskimo bands. Each band split into hunting groups of five to 50 persons during the remainder of the year when the economy shifted variously to caribou hunting, fishing and sea mammal hunting from kayaks.
>
> The winter band assemblage and the summer hunting groups were made up of face-to-face groups of people connected by ties of kinship. Kinship formed the basis for much personal interaction and established strong emotional bonds within the community.[57]

The aboriginal Inuit were introduced to steel traps by the whalers and began to spend part of each winter trapping foxes for furs; animals that had previously had no value. The decline of the whaling corresponded with the rise in the importance of the fur trade and the beginning of the contact-traditional period.

The Contact-Traditional Period

The contact-traditional period began in the early 20th century. The Inuit were drawn increasingly into a trapping-trading economy and according to Vanstone they "looked to the small Arctic fur-bearers, particularly the white fox, for the income needed to obtain guns, ammunition, cloth, and all other goods of civilization they could no longer do without."[58]

The introduction of the fur trade had many consequences for the Inuit people. The Inuit were primarily a coastal people and obtained most of their food and resources, such as seals, walrus, whales and fish, from the sea. How-

ever, Banfield suggests, the fall caribou hunt was also an important source of winter clothing and a change of diet.[59] He suggests the fur trade had a large impact on the caribou a major food source of the Inuit:

> ...the introduction of the fur trade indirectly tipped the balance against the caribou. The natives became trappers and the new occupation called for increased dog teams for winter travel. This led to larger caches of caribou meat to feed both trappers and dogs while on the trail. With these changes, was also introduced the tool necessary to facilitate the killing of caribou -- the European's firearms. For the first time the Indian and Eskimo found himself able to kill, at will, the unwary caribou. The seemingly numberless caribou herds began to melt away....[60]

With the introduction of the new hunting techniques it was no longer necessary for the Inuit to gather in the large winter sealing villages. The trapping-hunting camp, similar to the smaller summer camps, became the major focus of social interaction.

Missionaries, also played an important role in the contact-traditional period. They learned the Inuit language and then rapidly became the Inuit's spiritual advisor, educator, and translator at the trading post. The advent of the missionary and missionary schools encouraged the Inuit to stay in permanent camps near the church, school and trading post. This further reduced the Inuit traditions by replacing Inuit values with new Christian values.[61]

The Royal Canadian Mounted Police began establishing widely-separated police posts in the Arctic during the first three decades of the 20th century. The actions of the police replaced native legal sanctions and became a fami-

liar figure during inspection trips to Inuit villages.[62]

It appears that many of the major cultural changes of the contact-traditional period are directly or indirectly related to changes in technology, introduced to the Inuit such as, steel traps and guns. Robertson discusses the effects of some of these changes:

> The Indians and Eskimos of the North are losing a way of life -- a way of life that they understand and to which they were adapted.... Neither we nor they can turn back.... The old way of life has been seriously disrupted and will gradually disappear.
>
> It is not that we have actively sought to destroy their way of life. Not at all. The missionaries who taught that it was wrong to kill new-born girls or to desert the aged or disabled -- or to assist in their suicides -- were not intending to undermine the old way of life. But they helped. The limited wildlife resources of the North on which these people precariously depended had dictated the earlier practices. The traders, providing rifles, did not intend that these should cause the game to diminish further still -- but they too have helped. Virtually everything the whites have done has helped, in one way or another, to ensure that, in the long term, the old life on the land could not last.[63]

Damas summarizes the changes of the contact-traditional period as follows:

> Traders, missionaries, and police exercised paternalistic supervision over economic, religious and legal life, but the day-to-day life decisions were still left largely in Eskimo hands, since most settlements continued as all-native establishments.
>
> Family organization persisted much as before and close-knit kin ties continued to be important. Hunting, trapping and meat sharing were sometimes individualistic but more often were organized within the extended family or on a camp-wide basis....
>
> Over a 30 or 40 year period the contact-traditional camp community grew to be a more or less stabilized type of organization. It represented an adjustment to a changed economy and to culture contact but its

> basic organization was rooted in the heritage of aboriginal Eskimo society. Eskimo community life appears to have lost some of its vitality due to the break-up of the band organization and the weakening of wider tribal bonds.[64]

The contact-traditional type camp still exists, especially in the more northerly communities, but is being rapidly replaced by the large mixed Inuit-Kablunat settlements that developed at the centers of Euro-Canadian activity in the north. These settlements represent the third or centralized stage in the history of Inuit communities.[65]

The Centralized Period

The Second World War was responsible for extensive changes in the north. The American Air Force began building airfields in the Arctic, and following the War a number of airfields were either upgraded or built to meet continental air defense requirements. Weather stations were also built throughout the north, followed by the building of the Distant Early Warning Line (D.E.W. Line).[66] In the forties and fifties large numbers of Inuit were attracted to these radar and air bases; they were promised jobs and better housing.[67] The government was also encouraging the centralization of northern communities, in order to increase the availability of government services to the people.

The site of the centralized northern community was often not an Inuit choice. Sites were chosen by the traders, military, and government because they were readily accessible by sea, possessed safe anchorages, and were centered

in relatively well populated areas. Vanstone suggests that often "these settlements were so situated that the resources -- the fish, seal, caribou -- of the immediate environment could not provide enough food to support their populations for more than a very short time. Thus the inhabitants came to rely heavily on imported foods."[68] The Inuit, again, adapted to the ways of the new culture.

In 1954, Northern Health Service was established by a cabinet directive, and the Department of National Health and Welfare became the Health Department for the north. The Inuit had little or no immunity to many of the diseases of southern Canada. With increased travel in the north, communicable diseases caused virtual epidemics that killed or disabled large numbers of the Inuit. For example, in the late forties one case of measles spread to three communities killing one-third of the population before help could be summoned. In the early fifties, one case of poliomyelitis began an epidemic in three other communities, at Chesterfield Inlet -- 85 percent of the total population was stricken, with one-third dying or developing severe paralysis. In 1962 a single case of TB resulted in 90 cases requiring hospital treatment out of a population of approximately 300.[69] These incidents indicate that there was a need for readily available health care in the north, however the development of nursing stations and hospitals in response to this need compounded the changes that were already occurring in the north.

In 1967, the Government of the Northwest Territories was moved from Ottawa to Yellowknife and was given specific areas of responsibility. Since that time these areas of responsibility have been progressively increasing.[70] There are in fact several levels of government in an Inuit community. There are the local Hamlet or Settlement Council; Territorial Government departments such as Department of Social Development, the Northwest Territories Housing Corporation and the Department of Education; and several branches of the Federal Government including Health and Welfare Canada, Transport Canada and the Royal Canadian Mounted Police. It can be seen that there is an increasing amount of bureaucratization. Even within the Inuit community there is tendency to delegate responsibilities to committees, for example, the Health Committee, Alcohol Education Committee, or Education Committee. These changes towards bureaucratization tend to operate to weaken the ties of kinship, and custom of the contact-traditional Inuit.

The formal education of the Canadian Inuit was initiated by the missionaries. Children were originally taught in their home communities, but later one or two residential schools were established. These schools required the children to be away from their families for ten months or more at a time. In many cases the children were not allowed to use their native language and, consequently, they had difficulty communicating with their family and in following the traditional ways when they returned from school.

From 1967 to 1970 the responsibility for education was transferred to the Government of the Northwest Territories.[71] Today, classes are given in both the Inuit language and English. The elementary grades are most often taught in the community, but if students wish to complete the higher grades they must attend a residential school. The present system of education realizes the importance of the Inuit culture and is attempting to help the Inuit maintain their language and culture. However, it is still the southern culture and southern values which dominate the educational system.

Damas suggests the centralization of Eskimo populations often developed for a combination of reasons: inability to live off the game of the area, opportunity for wage employment, presence of schools, government aid programs, and a more exciting life offered by the centralized community.[72]

Increases in the mining industries, and oil explorations are also adding to the centralization process. More Inuit look for work in these industries and government agencies expand to monitor and control their development.

Centralization has many accompanying changes. For example, with an expanded population communities are more likely to qualify for telephone communication. Color television is also available through the ANIK satellite in many communities. In addition, frequent scheduled air flights in centralized communities allow increasing amounts of

travel between northern communities and the south. Damas suggests "one of the results of the access to education and mass media that is available in the centralized communities may well be dramatic changes in Eskimo views of the world and in his system of values."[73]

According to Damas the centralized mixed communities lack the economic self-sufficiency and internal unity experienced by earlier stages of Inuit history. In addition the impact of the southern culture that confronts the Inuit daily in these centralized communities is the most powerful and pervasive in Inuit history.[74]

Summary

In this chapter concepts of community change and community development were discussed. Attention was drawn to the fact that technological changes often initiate unplanned social changes which then result in a loss of community control and ability to affect change. Community development was suggested as a method to help communities deal with these changes. Specific concepts were identified to be utilized in a model for a community development program in an Inuit community.

Three periods of Inuit history were discussed: the aboriginal period, the contact-traditional period and the centralized period. The technological and sociological changes occurring in Inuit communities in each of these

periods were discussed. This information provided background necessary for the understanding of Inuit communities and provided a framework for the discussion of nutrition of the Inuit.

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CHAPTER III

INUIT NUTRITION

Introduction

The changes in the nutritional status and food habits of the Inuit can be divided into three periods which closely follow the three periods of history outlined by Damas in Chapter II. This chapter will discuss the three periods of Inuit food habits and relate these food habits to nutritional health and malnutrition.

Specifically, the adequacy of the traditional diet and its ability to supply essential nutrients will be discussed. The transitional diet will be mentioned with reference to its influence on the nutritional status of the Inuit. And finally, the present diet will be reviewed noting both the reduced incidence of death by starvation and a concomittant increase in malnutrition due to the greater availability of imported foods.

The Aboriginal Diet

The aboriginal Inuit diet varied according to the season and the location of the camp. Coastal Inuit depended predominantly on seal although walrus, whale, fish and caribou were also important. Inland Inuit depended primarily

on caribou, and fish from the lakes and rivers. In addition, musk ox, polar bear, birds and small game were also eaten. The aboriginal diet consisted mainly of meat. A small amount of vegetation such as seaweed, berries, young green leaves and shoots of Arctic plants provided some variety in the diet. The diet was specifically adapted to fulfill Inuit nutritional needs utilizing the natural resources.

The nutrients found in this limited food supply were conserved by appropriate methods of food preparation. Meat and fish were most often eaten raw or raw-frozen in order to preserve as many nutrients as possible, but especially to preserve the small amounts of vitamin C present in fresh meat. Arctic explorers later adopted this Inuit method of food preparation in order to avoid "scurvy" which had killed many of the earliest explorers. Warm meals consisting of boiled meat and broth were cooked every few days. The water soluble vitamins from the meat were available in the broth. Fat soluble vitamins were provided in the fish and marine oils that were used. Iron was obtained from the consumption of large quantities of meat and blood soups. Calcium, a mineral that is not readily available in a high meat diet, was provided by eating fish bones and chewing the soft spongy portion of the bones of land and sea mammals. The animal organs such as liver, kidney and heart were also major sources of many nutrients in the Inuit diet. The potential limiting factor in the aboriginal diet was the low carbohydrate intake; but because the protein intake was

was very high physiological adjustments were possible to allow the conversion of protein to glucose in the body.[1] Draper has concluded that, "the native diet, despite its remarkably restricted composition, is capable of furnishing all the nutrients essential for nutritional health, provided it is available in adequate amounts and is prepared according to traditional methods."[2] (Emphasis added.)

Since warm meals were prepared infrequently Inuit children and adults when hungry would nibble on small pieces of meat or fish. Children were allowed to eat whatever and whenever they wished. Parents took pleasure in pleasing the child and giving him the foods he desired. In the aboriginal diet this practice was valuable, however, it may be damaging to the health of the child if carried over into the centralized period. This will be discussed later in greater detail.

During the aboriginal period infants were breastfed from birth to two or three years of age. Prolonged breastfeeding served two purposes. Firstly, it provided a nutritionally balanced diet for the first six to 12 months, at which time premasticated meat or blood soup was given to the child. Secondly, it served as a means of birth control, allowing the adequate spacing of children.[3] Movement away from this infant feeding practice is believed to be responsible for several factors contributing to infant morbidity in the early centralization period.

The aboriginal diet provided all the nutrients necessary for good health; food choices were limited but of high

nutrient quality. Food habits and food preparation methods were well suited to the nutritional needs and food resources. The inadequate quantity of food was the most frequent cause of malnutrition in the aboriginal period.

The Contact-Traditional Diet

The explorers, whalers, missionaries and traders arrived in the north with limited amounts of flour, tea, oats and sugar. Because of their limited quantities these foods did not alter the nutritional status of the Inuit. The traditional diet remained dominant and continued to provide the necessary nutrients to maintain Inuit health. During the contact-traditional period steel traps and guns were made available to the Inuit and food became easier to obtain. However as the communities around the trading post became larger game became more difficult to hunt and the store foods were unable to provide the necessary nutrients. These problems were compounded as communities became more centralized.

The Centralized Diet

The centralized period of Inuit history initiated a substantial number of changes in the Inuit diet. The most important change was that Inuit no longer starved to death because of inadequate food supplies. Although starvation was eliminated the possibility of widespread malnutrition

was increased.

Shortly after World War II the Inuit were introduced to southern foods from a variety of sources. For example, foods were transported north for the larger populations of non-Inuit living at the weather stations and air force bases. Inuit children were sent to residential schools where they ate fewer traditional foods and more southern foods. Many Inuit were sent to tuberculosis sanitariums or other medical facilities where southern foods were served. With this increased exposure the Inuit developed a taste for some of these foods.

As the communities grew larger, wage employment increased, game near the community was reduced, and transportation of southern foods by air and sea barge was improved. Consequently, the Inuit were less able to hunt but were more able to purchase large quantities of southern foods.

Today, the transportation of food into the north is quite remarkable, considering the distances and unpredictability of the weather. Depending on the size and location of a community southern food in almost any form can be found, for example: fresh produce such as bananas, grapes, lettuce and celery; frozen products such as ice-cream, juices, desserts, fried chicken and fish and chips; dried foods such as powdered milk, fruit drinks, fruits, and pastas; and canned foods of all kinds including vegetables, fruits, meat spreads, stews, soups, and baby foods.

In order to make a profit stores will order in greatest quantities those foods which have the least amount of waste and overhead expense and the largest percentage of sales. The foods in this category are usually soda pop (the largest single profit item in most northern food stores),[4] candies and snack foods which are usually high in salt, sugar and fats and low in other nutrients. Many of the more nutritious foods are difficult to store or transport, consequently their prices in the store are extremely high, for example, 1977-78 prices in certain communities included: one dozen eggs $3.80, one cabbage $9.00, one orange .79¢. The high cost of these foods frequently reduces the quantities and varieties that will be purchased. Many southern foods are unfamiliar to the Inuit who are unable to read the English labels to learn how to prepare or serve these foods. Foods which can be eaten cold or with minimal preparation are chosen most often, usually these consist of snack foods or convenience foods of low nutritional value.

The types and nutritional quality of foods available in Inuit communities have changed rapidly. However, the cultural patterns associated with food are changing more slowly; this is having many adverse effects on Inuit health. Children are still allowed to eat whatever and whenever they wish. Consequently, many children are constantly snacking on soft drinks and candies and are not receiving foods of adequate nutritional value.

The centralization of the Inuit and their increasing

dependence on store foods is also having an adverse effect on many of the elderly. In the past someone would always take meat and fish to the elderly. Some elderly now complain only a few men are hunting and the limited amount of game that is available is not always shared. Consequently, the elderly who have never learned to tolerate the southern foods are not receiving an adequate diet.

Present Nutritional Status of the Inuit

A dictionary definition of "nutrition" is "the sum of the processes by which an animal or plant takes in and utilizes food substances."[5] Gift, Washbon and Harrison discuss nutrition and malnutrition as follows:

> To stay alive, man requires food as a source of energy and essential nutrients -- those nutrients required by the body which cannot be synthesized by the cells themselves. If a person lacks sufficient calories, he is hungry. If he lacks one or more essential nutrients, he becomes malnourished. (We should perhaps point out that the term "malnutrition" also applies to conditions of over-nutrition and nutrient imbalance...) Carried to the extreme, either hunger or deficiency of essential nutrients is fatal. In milder, chronic forms both conditions are common in much of the world's population -- not always in the so-called underdeveloped countries.[6] (Emphasis added.)

Malnutrition includes:

1. An adequate intake of essential nutrients:

   nutrients which are necessary to maintain optimum bodily functions resistance to infection and provide tissue reserves to meet increased nutrient requirements during periods of stress; and/or

2. An excessive intake of calories or nutrients: intakes which are detrimental to the health of the tissues or lead to a reduction in the efficiency of the body systems.

The three major sources of malnutrition are:

1. Insufficient food eaten. This is the largest cause of malnutrition in the world today. In the aboriginal period this was the major cause of Inuit malnutrition -- Inuit starved to death in the Keewatin region of the Canadian Arctic as recently as 1958;[7]
2. Poor food choices which result in either over-nutrition (obesity), or under-nutrition (nutrient deficiencies), or a combination of both. This is the most common nutritional problem in Canada and is presently seriously affecting the nutritional status of the centralized Inuit; and
3. Diseases or conditions which interfere with the absorption or metabolism of certain foods or nutrients. These conditions may also be a factor in the malnutrition of the present Canadian Inuit.

The importance of nutrition is often easier to appreciate in cases of starvation or extreme nutrient deficiencies such as rickets or scurvy. A noted author on nutrition, Allan Berg, has stated "most malnutrition is unobtrusive. The day-in, day-out erosion of health it causes may reach epidemic proportions... but it lacks drama."[8] Sub-optimal

nutrition is not as visible as poor housing, alcoholism, or unemployment. This does not mean, however, it is less important to the individual or the community. As Berg has pointed out "Nutrition is not the centerpiece of development, but is an important part and is deserving of more attention than it has received.[9]

Malnutrition affects the individual's performance of daily duties and interest in his surroundings. While malnutrition in adults affects their physical and mental well-being malnutrition in pregnant women, infants, and children has a much more drastic and long term effect.

The Nutrition Canada Survey of 1970-72 was the first comprehensive national survey conducted in Canada. The initial report was concerned with the overall national situation in terms of prevalence of nutritional abnormalities. Separate reports were published for each of the provinces as well as the Indians and Eskimos. A summary of the Nutrition Canada report on Indians and Eskimos follows:

> The special reports on Indians and Eskimos reveal that Indians share the general population's overweight problem and both groups have low iron stores like the rest of the sample groups. Furthermore, the Indians and Eskimos have additional problems which are not apparent in other Canadians. Both ethnic groups have low calcium and apparently low vitamin D intakes; in fact, the estimated vitamin D intakes of Eskimos are so low that rickets may soon become a common condition among Eskimo children. Furthermore, Eskimos and many Indians living in remote areas are classified as high risk regarding vitamin C status. The prevalence of bleeding gums in these groups, particularly Eskimos, suggests the presence of vitamin C deficiency [scurvy]. The vitamin A status of Eskimos and Indians is also a cause for concern; the vitamin A intakes of Eskimos are especially low.[10]

This information suggests the Inuit are neither starving to death from a total lack of food, nor receiving adequate nutrients from the foods they eat. They are at risk for problems associated with being overweight, deficient in five or more of the essential nutrients, and show signs of deficiency diseases.

Nutritional needs and areas of concern change as individuals grow and develop. The age, sex, physiological development, mental health, physical activity and environmental stresses of an individual all influence his/her nutritional status. The requirements for each nutrient vary throughout the life cycle with specific nutrients being of critical importance during certain phases of development or periods of stress. In this section issues of Inuit nutrition will be discussed and related to four developmental stages having different nutritional priorities: pregnant and lactating women, infants and children, adolescents, and adults and the elderly.

Pregnant and Lactating Women

The general health of the mother and in particular her life-time nutritional status is a major factor in the health and birth weight of her infant, and thus indirectly the survival chances of that infant. Prenatal malnutrition may cause otherwise minor childhood diseases, such as gastroenteritis and respiratory disease, to become killers.

Good nutrition during pregnancy could reduce infant

mortality and reduce the morbidity of the surviving infants.

Prenatal nutrition greatly affects the entire life of the infant. The Subcommittee on Nutrition, Brain Development and Behavior stated:

> "...if the fetus is malnourished, resulting in low birth weight for age at delivery, or delivered prematurely because of maternal disability, his brain growth may be directly affected. Similarly, impaired fetal development may increase the vulnerability of the newborn infant to subsequent poor nutrition and environmental stress. Compared to a child normal at birth, the under-developed newborn would grow less well, would be likely to have more illnesses, and probably would have limitations in brain development and behavior.[11]

Brett, Taylor and Spady have found in their study of perinatal and infant mortality in the Northwest Territories:

> There is a preponderance of deaths in Indian and Eskimo groups with the white populations in the minority. The neonatal death rate was 15.2/1000 live births with Indians and Eskimos at greater risk of death during this period... there were thus 27 perinatal deaths; 17 of these were children under 2500 grams in weight, an important factor to consider in analyzing causes of death.[12]

A. Lactose Intolerance

The Inuit may have one physiological problem which will make it difficult for them to consume an adequate diet during pregnancy. During pregnancy and lactation it is usually recommended that a woman consume four glasses of milk per day to help meet the increased requirements for calcium, protein, vitamin A and vitamin D. Many Canadian Inuit are unable to digest the sugar in milk after three or four years of age. Draper has suggested that in Alaska approximately 80 percent of the adult Inuit have

been found to have lactose intolerance.[13] Research has shown that most of these individuals can tolerate "at least one cup of milk (or its equivalent in other dairy products) at a time."[14] Draper suggests that if milk is taken in small amounts, several hours apart, throughout the day most age groups can consume the recommended amount of dairy foods. However, this may be more difficult for the pregnant and lactating women who may need additional supplements.[15]

B. Nutritional Status

It may be useful to review the extent of malnutrition in pregnant Inuit women. We have already discussed the Nutrition Canada finding that their caloric intakes "were so low that fetal growth could be affected."[16] Brett et al. have suggested that low birth weights are a factor in infant mortality in the Northwest Territories.

Nutrition Canada suggests there is further evidence of malnutrition in pregnant Inuit women. For example, there is concern over their vitamin A, C, D, calcium, iron and folic acid intakes.[17]

Nutrition Canada did not find any evidence of deficiencies in riboflavin, niacin, thiamin, vitamin E or protein.

The nutritional status of the pregnant Inuit may have improved since 1972. Recent studies suggest there is a greater awareness of the need for fruit and vegetables; vitamin C enriched fruit drinks are also being consumed.[18]

However, poor iron reserves, and low intakes of vitamin A, folic acid, calcium and calories are still areas of concern for the pregnant Inuit. Vitamin supplementation programs help to alleviate problems associated with the major essential nutrients, but they do little to improve eating habits, or supply the woman with the necessary protein, calories, and micronutrients necessary to maintain the optimum health of the mother and the fetus.

Infants and Children

> Important as diet is for all age groups there is no period in life when the mode of nutrition has such a decisive immediate, as well as delayed, effect on health and even life of an individual as in infancy. The traditional mode of infant nutrition was naturally for all human beings lactation prolonged for two to four years.
>
> The duration of this prolonged lactation as well as spacing of children three to four years apart... [became] ingrained with all kinds of enzymatic adjustments such as lactase activity for the first three or four years only for most human races, and dependence on mother milk for immunological defences in gut and respiratory tract....[19]

A. Breastfeeding

Dr. Schaefer has been working with the Inuit for 20 years and in that time he has seen many changes in Inuit nutrition and health. One major change has been in infant nutrition. During the aboriginal period all infants, except perhaps a few who were adopted, were breastfed for two to four years. In the early portion of the centralized period, bottle feeding became more prevalent until in 1973

bottle feeding was quite common even in the smallest and most remote places.[20] As a result of the Northwest Territories Perinatal and Infant Mortality and Morbidity Study in 1973, public health nurses again began promoting the practice of breastfeeding. Infant feeding has gone a full circle finally returning to aboriginal practices. But why is breastfeeding so important for the Inuit infant? Recent studies have shown several medical reasons why breastfeeding is the preferred method of infant feeding. Breastfed Inuit infants have a lower incidence of otitis media (middle-ear infections), respiratory tract infections, gastroenteritis, and other infections. These illnesses are more common in bottlefed infants, possibly because the formulas are inappropriate, formula preparation is unhygienic, or inadequate care is given the infant who may be frequently left with a propped bottle. Whatever the reason for their occurrence, these illnesses reduce the nutritional status of the infant and the infant becomes more susceptible to acute and chronic infections.

In the Perinatal and Infant Mortality and Morbidity Study for the Northwest Territories, Brett, Taylor, and Spady found that "Between the ages of 28 and 365 days... the population most at risk was the Eskimo, with the Indians next and the white child at very low risk."[21] Malnutrition is considered as one of four major factors leading to infant deaths in this age group.

> Malnutrition played a decisive role in at least one death and a contributory role in two others. It is

> possible that malnutrition was involved in yet more deaths, but it is difficult to assess nutritional status after the fact and from a distance....[22]

Brett *et al*. suggest infections were a major or contributing factor in the deaths of 14 of the 16 children. Malnutrition also was involved as a contributing factor in several of these cases.[23]

Hamilton discusses the relationship between malnutrition, infection and intractable diarrhea a condition often found in Inuit infants.

> In areas of the world where severe malnutrition is prevalent, chronic diarrheal illness is a major cause of ill health and death among infants. The relationship between diarrhea and poor nutrition has been recognized for a long time, but it has not been completely explained, perhaps because of the multiplicity of variables that bear on the relationship. Neither the incidence of chronic diarrheal disease nor the incidence of under-nutrition among our North American native infants has been precisely defined. Severe intractable diarrhea occurs among our native people, whether its prevalence is greater in Indian and Eskimo babies than in the rest is less certain. The experience of the McGill group at Frobisher suggests there is a particular problem among our Eskimos....[24] (Coulter, D.M. and Papkin, J.S., Intractable diarrhea in Baffin Island Eskimos (abst), 2nd International Conference on Subpolar Medicine, 1974.)

Hamilton believes most acute infantile diarrhea is caused by infection and suggests "If infection persists or recurs, we should suspect extraordinary conditions with respect to the infecting agents or poor resistance on the part of the host."[25] Hamilton continues, suggesting several reasons for the poor resistance of the host:

> There is no published evidence that immune function is compromised in the Indian or Eskimo, at least on a genetic basis. A couple of modern technical

> "advances" might be having some effect on the native infant's susceptibility to enteric infection and his capacity to fight infection, particularly in the face of continued exposure. The first is the trend away from breast feeding which has occurred throughout North America. The mechanisms by which breast milk helps to protect infants against enteric infection are not completely known; both antibody and cellular factors may be operative, but its beneficial effect is established. If Indian and Eskimo mothers have developed a preference for bottle feeding, this practice could contribute substantially to the occurrence of recurrent infection and chronic infantile diarrhea, particularly where hygienic standards are poor....
>
> Among North American native people generally, undernutrition does not seem to be of a severity that would be expected to significantly alter the infant's immune function.... Possibly in cases where nutritional status is marginal initially, diarrheal disease tips the scale; as it progresses, severe undernutrition may develop, at which time immune competence is affected.[26]

Another type of infection which poses a serious problem for Inuit children is otitis media. If not treated promptly and successfully, it may become a chronic infection and can lead to a significant loss of hearing. Lupin suggests, "Chronic ear disease can be a serious disability for the young native patient who suffers a significant loss of verbal ability and falls behind in reading, mathematics, and language." [27]

Lupin reports, "If breast feeding is omitted in the first month of life, there is an associated five-fold increase in the incidence of otitis media and a ten-fold increase in the incidence of severe cases."[28]

Otitis media is a relatively new problem for the Canadian Inuit. Manning, suggests that based on medical evidence of the older population, "This disease has become

prevalent in the Eskimo population in the last 20 years."[29] It affects about 40 percent of the population and is apparently increasing in prevalence. In the majority of cases the condition commences before the age of two years.[30]

Manning suggests that "the rapid change in nutritional status in its varied manifestations is a possible causative factor which best fits the epidemiology of the disease."[31] He further states, "We believe that... [the] nutrient changes have reached a critical level in a proportion of the Eskimo population, causing a susceptibility to suppurative otitis media."[32]

"Children with chronic otitis media may also be prone to recurrent pneumonia and other infectious diseases."[33] In addition there is evidence to suggest "that children with chronic otitis media have a significantly greater amount of dential caries", which Manning suggests, "lends credence to a relationship between sub-optimal nutrition and chronic otitis media."[34]

Bender in a 10 year study of 500 Alaskan Inuit children found evidence to suggest that "anemia in infancy without other overt manifestations of malnutrition is related to poor intellectual function as measured in childhood."[35] He further suggests from his data that "OM [otitis media] is associated with impairment of intellectual development, independent of any association with SI [serious illness] or anemia in infancy."[36]

B. Infant and Childhood Feeding Practices

Depending on the prenatal nutritional status of the mother the infant usually has sufficient iron stores in his body to prevent anemia for at least the first six months of life. It is usually appropriate to begin the introduction of solid foods at approximately four to six months in order to introduce another dietary source of iron. Traditionally, the Inuit would begin introducing premasticated meat to the infant when he began to get teeth. Blood soup was also given to the infant at this time. Both these foods are excellent sources of iron and other nutrients needed by the infant. However, changes have occurred in this area of Inuit nutrition. Sayed, Hildes, and Schaefer, in their study of Inuit infant feeding practices found that in one community the first foods introduced were: imported strained foods and cereals for 35 percent of the infants; biscuits and candies for 24 percent of the infants; and native foods such as fish, caribou, and seal for 41 percent of the infants.[37] It is questionable whether the new foods provide adequate absorbable iron to prevent anemia in the Inuit infant. The biscuits and candies which are introduced as first foods to almost one-quarter of the infants may cause significant problems for those infants who have a sucrase deficiency (this will be discussed in greater detail later). These foods will not provide an adequate source of iron; and may begin a preference for an inordinate amount of sweets in later life with extensive nutri-

tional complications.

The early introduction, and the large amounts of sugar consumed may be one of the most important causes of malnutrition in Inuit children. Schaefer has collected data which shows that in 1959 the consumption of sugar in various forms in one Inuit community was 26 pounds per capita. Eight years later the consumption of sugar had increased 400 percent to 104.2 pounds per capita.[38] Although no data has been collected there is every reason to believe there has been a steady increase in the per capita consumption since 1967.

Mayhall in a study of two communities experiencing different levels of wage employment found:

> In 1969, parents questioned about their children's dietary habits indicated that their offspring were consuming essentially the same food as they. But, by 1973, almost all parents noted that their children were subsisting primarily on commercial foods, and, when money was available, enormous quantities of soft drinks and candies were being consumed. In fact, the most dramatic shifts in diet from native to commercial foods were noted in these caries-prone age groups.[39]

It was also found that "At all ages, both communities show appalling increases in the caries rates over only four years."[40] The increases were in the range of 43.1 to 77.9 percent in both communities. Mayhall concludes "We can see clearly that with an increased consumption of processed foods, the dental caries rates increase."[41]

C. Inuit Caries Experience

Mayhall reports:

> [The] dramatic shifts in the dietary patterns are reflected in the increases in the caries rates.... In those 20 years of age and under, there were between 23 and 160 percent increases in the number of teeth affected. The largest increases in caries prevalence were found in the preschool children, a group which is the least accessible for preventive measures through existing school programmes. This group is the one which should be under the tightest dietary control because of dependence upon their mothers. But it appears that, although adults know at least the rudiments of the perils of sucrose, they still provide cariogenic foods in great quantities to their children, either through candy or through the use of sweetened formula for the very young.[42]

Mayhall suggests, "The overriding impression one receives when analyzing the causes of this disease is that the sucrose-containing substances ingested in great quantities are major factors in the initiation of caries."[43] He also recommends, "A concerted effort to improve the diet of the Indian and Inuit children through education at all levels and that intensive preventive programs would be a starting point in the battle against the most prevalent disease among these people."[44]

Dental disease is possibly at its worst in the preschool child. The child has access to sweets all day and is not included in the dental programs in the schools. There are many preschool Inuit children who have had several of their teeth surgically removed. In the two year period 1976 and 1977, there were 1,752 deciduous teeth surgically removed from children in Inuit communities.[45] The surgical removal of their teeth further compromises the nutritional status of the child as he will have difficulty in chewing

many of the foods which can provide him with needed nutrients.

D. Sucrase Deficiency

The consumption of sugar containing foods may cause another problem for some Inuit children. Draper, Bell and Berger have reported that in a sample of Alaskan Inuit "Eskimos are unique, so far as is known, in their susceptibility to a racial-ethnic form of primary sucrase deficiency [inability to digest sugar]."[46] They suggest:

> ...it is possible that this anomaly is generally absent in the subarctic region where berries have provided significant quantities of sucrose in the diet for many centuries. In the circumpolar region, where sucrose was effectively absent from the diet, sucrase activity probably was a negligible factor in natural selection.
>
> Sucrose intolerance differs from lactose intolerance with respect to its prevalence, mode of inheritance and nutritional significance. Intolerance to sucrose is due to a lack of sucrase existent from birth, whereas lactose intolerance is due to a decrease in lactase synthesis which occurs during maturation. While sucrose intolerance is considerably less prevalent than lactose intolerance, its consequences for those affected are more serious. Sucrase deficiency imposes multiple restrictions on the selection of foods from the modern diet, whereas lactose intolerance can be managed in most cases by modulating the intake of a small number of foods. Symptoms of sucrose intolerance are typically induced by consuming a piece of cake, an ice cream cone or an eight ounce glass of sweetened juice or carbonated beverage. Sucrase deficiency is worthy of consideration as a possible cause of persistent diarrhea in Arctic Eskimo children.[47]

E. Nutritional Status

The Inuit child has also been found to have other nutritional problems. Several studies have found that Inuit

children have low levels of iron in their blood which could lead to anemia and other related problems.[48] The vitamin A consumed in the diet of Inuit children seems to vary considerably between communities. Nutrition Canada results showed poor vitamin A status in Inuit children, but a more recent survey, in one Inuit community has identified 40-58 percent of the children under ten years of age to be at risk. Nutrition Canada also suggested the calcium intakes were marginal for Inuit children under ten years of age. Over 25 percent of Inuit children were also at high risk for problems associated with folic acid deficiency.[49]

Adolescents

The nutritional requirements of the adolescent are very high when compared to the adult requirements. Adolescence is a time of rapid growth and development, and for many teenagers it is also a time of great activity.

The nutritional status of the adolescent girl is particularly important as it sets the stage for her future nutritional status during pregnancy and lactation. She must consume sufficient calories and nutrients both to support her own growth and to ensure the development of a healthy fetus.

Because of the increased requirements of this period it is important that the adolescent consume a large proportion of nutritious foods. Unfortunately, it is doubtful that they do so. Candies and soft drinks remain favorites

and increasing numbers of teenagers are eating "Kentucky Fried Chicken" rather than the more nutritious seal and caribou their parents consume.

In 1972, Nutrition Canada found adolescent Inuit were consuming inadequate amounts of vitamin C indicating critical dietary shortages. The intakes of vitamin A were marginal for Inuit boys and inadequate for Inuit girls. Approximately half the girls and boys did not appear to be meeting their demands for iron. Forty to 50 percent of the Inuit adolescents had serum folate values at high risk, indicating a low folate store. Finally, Inuit adolescents also had marginal intakes of calcium and vitamin D.[50]

Due to the implementation of school vitamin programs the adolescent Inuit may not have as many nutritional deficiencies as suggested by Nutrition Canada. However, there is reason to believe the supplementation programs have not been able to significantly reduce the nutrient deficiencies of a large number of adolescents not attending school regularly. Consequently, nutrition programs for adolescent Inuit are still necessary.

Adults and the Elderly

The adult and elderly Inuit have perhaps the most diversified nutritional status. Those Inuit who lived in contact-traditional communities until late in their life have a considerably better nutritional status than those who grew up in a centralized community.

A. Nutritional Concerns

Dental caries and loss of teeth due to extractions are almost non-existent in many elderly Inuit, but are more common in the middle-aged. There is also a greater incidence of dental caries among the middle-aged in those communities where centralization occurred earlier as compared to similar groups in communities where centralization has occurred only recently.[51]

The incidence of obesity also relates to the amount of time since the beginning of the centralization in the community. For example, in communities where early centralization occurred, obesity appears to be a real problem, but in the more recently centralized communities obesity is less prevalent. An increase in the incidence of obesity is also associated with increases in several other so called "diseases of civilization" such as hypertension, cardiovascular disease and gall bladder disease.[52]

Cardiovascular disease was not prevalent in the aboriginal Inuit and even today the elderly who have followed the aboriginal diet show little evidence of heart disease. The cholesterol levels in individuals of one Inuit community recently surveyed suggested they are much less at risk than any other North American population surveyed.[53] The aboriginal diet, high in marine oils, provides a large proportion of the fats in the form of polyunsaturated fatty acids; these are considered to have a beneficial effect on the maintenance of low cholesterol

level in the blood. However, when the diet is changed from the aboriginal the "long-standing pictogram of low blood cholesterol levels and blood pressures in Eskimos is no longer valid."[54] Consequently, changing from the aboriginal diet may lead to greater risk of heart disease.

The traditional Inuit diet appears to have had certain nutritional limitations. The Inuit, beyond age 40, have shown an earlier onset and a faster rate of bone mineral loss (resulting in a more fragile bone) than whites. Draper suggests this osteoporosis may be attributable to the high protein or high phosphorous diet; low calcium intakes; or more likely to a combination of these factors.[55]

B. Nutritional Status

Nutrition Canada identified several nutrient deficiencies in the adult and elderly Inuit. These included vitamin A, vitamin D, vitamin C, folic acid, calcium and iron.[56] Iron and vitamin C seem to be the nutrients identified most often as nutrients needing special promotion. It has been suggested by Schaefer and Eaton that:

> On basic principles there seems to be good reason for an educational effort aimed at the older population to point out this deficiency [vitamin C] and ways of combating it. At the clinical level the low intake of vitamin C in the diet of older inhabitants should be kept in mind as a possible contributory factor in gum disease, recurrent infections and hypochonric anaemias, and appropriate advice should be offered.[57]

The adult Inuit are becoming increasingly dependent on southern foods -- as their food habits change from the traditional ways their nutritional status declines. Dental

problems, obesity, and other "so called diseases of civilization" are becoming more prevalent. Unless measures are taken to help alleviate and improve this situation the health of the adult Inuit will decline considerably.

Summary

In summary, it can be seen that several factors have led to the changes in Inuit food practices. Centralization and wage employment have been responsible for the vast majority of changes. Increased populations equipped with modern guns and snow machines have diminished game resources such as whales, musk oxen, polar bears, and the caribou herds, thereby necessitating the adoption of new food practices.

The literature has shown that the aboriginal diet when supplied in appropriate quantities and prepared in the traditional manner provided all individuals with the essential nutrients. Food choices were unnecessary as the aboriginal foods were all of high nutritive quality.

The number of nutritious foods which are available for transportation to the north have greatly increased in the last 20 years. Concomitantly however, non-nutritious foods or foods of low nutritional quality have also been transported north at a phenomenal rate, possibly even surpassing the numbers of nutritious foods.

Draper summarizes the problems that the concomitant depletion of aboriginal food sources and the explosion of

imported foods has caused for the Inuit.

> The modern Eskimo has for the first time the opportunity to make significant food choices. Presented with an array of exotic new foods which he is not equipped by personal experience or education to evaluate, he tends to choose badly. In general, the items he selects are below the average quality of the U.S. mixed diet and of the foods they replace in his native diet. His nutritional status is deteriorating, in terms of both undernutrition and overnutrition, in direct relation to the proportion of processed foods in his total diet. In the subarctic, where dietary acculturation is extensive, the Eskimo has the full complement of diet-related diseases that are characteristic of other segments of the U.S. population of low socio-economic status: obesity, cardiovascular disease, hypertension, and tooth decay.[58]

Every age group of the Inuit population has been shown to have medical problems related to malnutrition. The birthweight of the infant, as influenced by the mother's prenatal weight gain; the duration of breastfeeding or the lack of it; and the appropriate introduction of solid foods all affect the infant's nutritional status, health and ability to withstand infections -- a major cause of infant mortality and morbidity. Malnutrition has been implicated in recurring childhood illnesses, rampant dental decay in all ages, and the increasing incidence of diet related diseases in adults and the elderly. Malnutrition has been shown to be a problem in the Inuit communities; public health measures such as school vitamin programs and vitamin supplementation for pregnant women and infants have alleviated, at least for the moment, some of the most obvious deficiencies. However, vitamin supplementation cannot provide all the essential nutrients, especially as more new foods of low nutritional quality are introduced.

Footnotes for Chapter III

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CHAPTER IV

METHODOLOGY

Introduction

While working as a nutritionist with Health and Welfare Canada in the Eastern Arctic the author identified the need for a community development approach to nutrition programs. The responsibilities of the author at this time included meeting with health care professionals, educators, and interested community members throughout the Eastern Arctic (see Figure 1) to discuss and develop nutrition programs. The average length of stay in a community was four to ten days depending on the community interests and needs. Insight into the community was gained through direct observation and conversations with the Public Health Nurses, Community Health representatives, and school teachers. As a consultant the author often worked with an interpreter to communicate directly with community members.

The nutritional needs of each community differed depending on a number of factors, for example, the size and accessability of the community; the acculturation of community members; and the seasonal availability of traditional food resources such as seal, polar bear, whale,

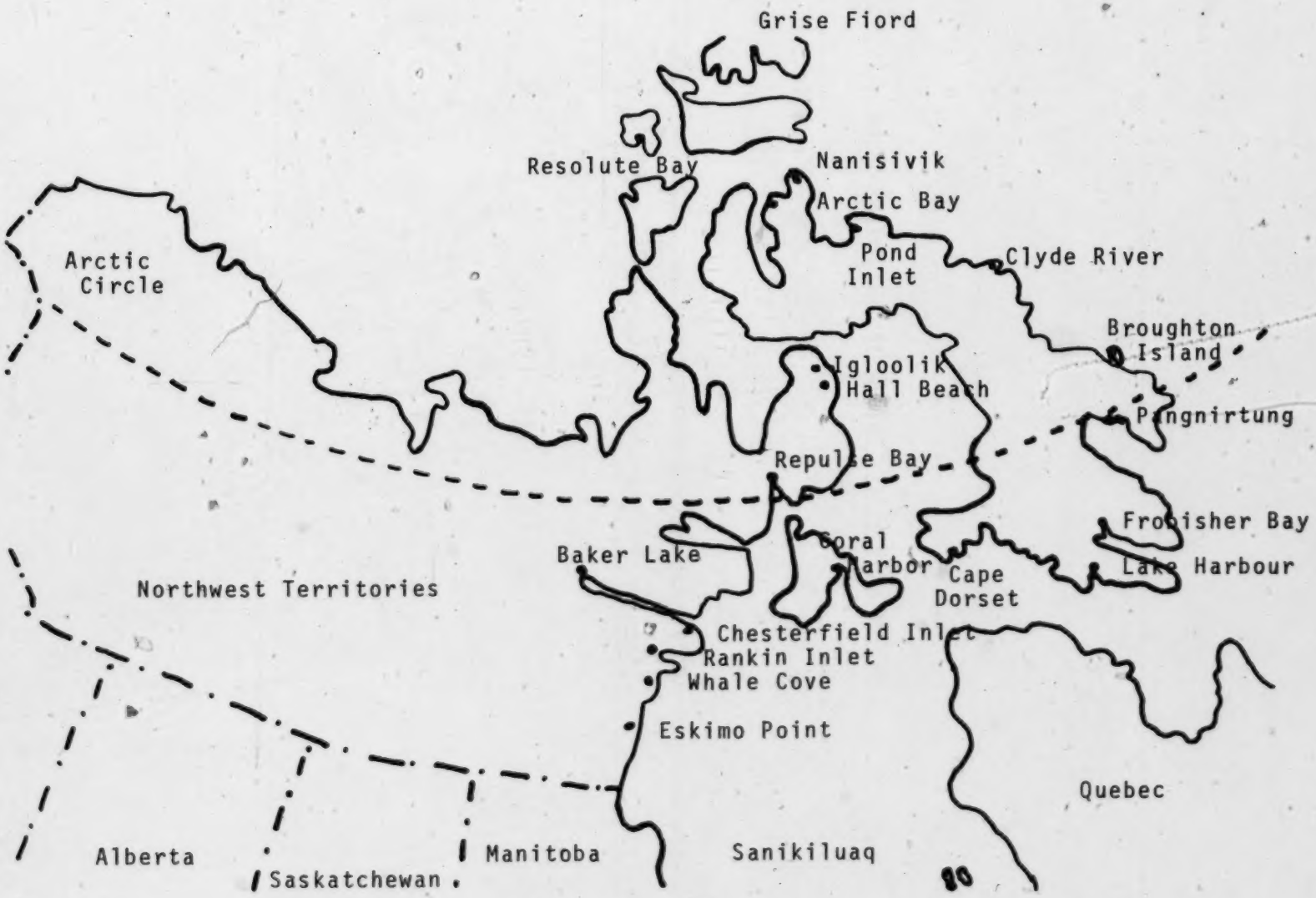

FIGURE 1. COMMUNITIES OF THE EASTERN ARCTIC

walrus, fish, and caribou.

The data on alcohol prohibition was collected during a business trip to discuss with community groups the possibility of developing nutrition programs. The collection of data regarding alcohol prohibition was treated as a separate but closely related program. It was hoped that the information gained from these parallel endeavours would permit not only the theoretical development of a community approach to nutrition programs, but would also motivate the community to consider planning a community nutrition program.

In this chapter the similarities between the nutritional problems and the alcohol problems in the Eastern Arctic will be explored. It will be explained why a case study of the prohibition of alcohol was chosen as the method for developing a model for a community development approach to nutrition programs. The data collection will be discussed including brief descriptions of the sample community, the method of data collection, the interview guide, the sample population and the interview technique. In addition, the limitations of the study will be noted and a brief explanation of the data analysis will be given.

Study Design

Relatively little research has been published studying the use of community development approaches in the planning and implementation of Inuit programs;[1] even less

research has been published on community development approaches relating specifically to Inuit health.

In areas of study where there is little experience to serve as a guide intensive study of examples of similar problems often stimulates insights into the new phenomenon.[2] A case study allowed such intensive study of an example and consequently seemed appropriate for the present research. A program which had achieved observable community action within a definable time span was chosen to allow the investigator to gain familiarity with and achieve insights into the community action. Insights gained from the community action program studied were then applied to another program operating under similar conditions.

The case studied was the community action to prohibit the use of alcohol in an Inuit community. The insights gained were applied in a model for a community development approach to nutrition programs in an Inuit community.

There were several similarities between programs associated with alcohol and those associated with nutrition. The Inuit communities, Inuit Associations, and Territorial and Federal governments had all expressed a need for, and an interest in successful nutrition and successful alcohol programs. In addition, Federal and Territorial governments were considering funding or subsidizing programs related to alcohol or nutrition in the north. Both alcohol consumption and nutrition were affected by and had affected the traditional lifestyle. Changes with respect to alcohol and

nutrition had been so rapid that even the relatively young remembered the traditional way of life and the benefits of past practices. The consumption of alcohol and food were determined by personal preferences and beliefs. And finally, attempts to change the food consumption patterns had met with resistance similar to that encountered in the control of alcohol. For these reasons it was believed that the techniques, methods and processes identified in a successful program to prohibit alcohol provided a basis for a community development approach to nutrition programs.

A major difference between the alcohol and nutrition programs was that the need for alcohol programs was more apparent. Alcoholism resulted in violence, accidental deaths, fires, neglected children, and insufficient income to feed and support a family.

The need for nutritional programs was somewhat less obvious and therefore appeared to be of secondary importance. However, malnutrition was also evident as could be seen from the high incidences of infant mortality and morbidity, recurring childhood illnesses, rampant dental decay in all age groups and the increasing incidence of diet related diseases in adults and the elderly. An awareness of the need for nutritious food to maintain health was beginning to develop.

Perhaps the most significant reason for using an alcohol program as a model was that there had been effective community action to control alcohol. This provided

an excellent opportunity to analyze the processes involved in this community action in Inuit communities and to develop a model for similar programs. The community action to control alcohol had elements of community development and was therefore a logical case to study before developing a model for a community development approach to nutrition programs.

Data Collection

The Sample Community

One Inuit community which had successfully passed a plebiscite to prohibit the use of alcohol had also expressed an interest in nutrition programs. This community was chosen for the study. Their expressed interest provided an opportunity for the investigator to enter the community and provide a tangible service to which the community could relate, thereby, it was hoped, reducing the community members' possible feelings of frustration and mistrust of being subjects of yet another study which provided little advantage to the community.

Method of Data Collection

Informal focused interview techniques were used as the major form of data collection. This method was chosen for several reasons: (1) The difficulties associated with obtaining accurate translations of written questionnaires

and questionnaire results were considered unmanageable in the time available; (2) Personal experience had shown that spoken questions directed towards an Inuit person were often considered a directive or elicited a response designed to please the interviewer; and (3) The focused interview allowed the interviewees to indicate aspects of the situation which were most significant to them and to progressively explore their responses, it minimized the number of questions which needed to be asked.

Merton describes the focused interview as follows:

> Distinctive characteristics of focused interview: (1) Interviewees are known to have been involved in a particular situation (have taken part in an experiment, have seen a film, heard a radio program, etc.). (2) Investigator has provisionally analyzed situation and developed hypotheses regarding probable responses to it. (3) This content or situational analysis provides basis for interview guide, setting forth major areas of inquiry and providing criteria of relevance for interview data. (4) Interview focuses on subjective experiences to ascertain interviewees' definitions of situation in which they were involved.[3]

Newspaper articles, from northern newspapers such as TAPWE, News of the North, and Nunatsiaq News, which reported on the community action to prohibit alcohol were used to obtain the introductory information about the action. The information was provisionally analyzed providing the basis for the development of the interview guide and identifying knowledgeable contacts or possible interviewees in the community.

Interview Guide

After reviewing the newspaper articles an interview guide was drawn up to focus the interviews on aspects relating to the research questions. Six questions were formulated in very simple English to minimize possible misunderstandings in interpretation. The questions used were as follows:

1. Can you tell me/us how alcohol was used in [name of community] before it was banned last August?
2. Why do you think the people voted to ban alcohol?
3. Can you tell me/us which people did the most to have alcohol banned in [name of community]?
4. Why do you think these people wanted to ban alcohol?
5. How did the interested people let others know about the vote to ban alcohol?
6. What is it like in [name of community] now that alcohol is banned?

Before taking the interview guide into the community it was first pre-tested on a non-Inuit individual who had recently left the community. This individual had lived and worked in the community for a period of four years and moved shortly after the plebiscite was passed. Her answers to the questions accentuated areas where questions needed to be more specific and areas of duplication. Following the interview the interviewee was asked to comment on the suitability of the interview guide for use in the Inuit

community: specifically, if the questions would be understood and if they would be acceptable to the Inuit and non-Inuit community members. In addition she was asked to name individuals in the community who were involved in the action or who would have knowledge of what had occurred.

The Sample

It was decided that in the time available approximately 15 people out of a population of 900 could be interviewed. This sample was small but when chosen wisely offered a wide variety of viewpoints representing at least the major views of community members. The sample mix included Inuit and non-Inuit community members, a range of ages from young adults to respected elders and men and women. Individuals who were chosen to be interviewed held responsible positions in the community; had been involved, or were seen to be involved, in the action to prohibit the use of alcohol; and/or were known to be against the existing prohibition.

Individuals were identified to meet these qualifications by listing individuals mentioned in the newspaper articles; identifying individuals in responsible positions such as the Hamlet Council, Church, school, Nursing Station and Territorial Government offices; and asking interviewees to identify other individuals important in the community or in the community action to control alcohol. The individuals named by more than one interviewee were also inter-

viewed; four or five individuals were chosen in this manner.

The final sample interviewed included 15 individuals: 11 Inuit and four non-Inuit; eight males and seven females; six people who supported prohibition, six who appeared neutral, and three who were against prohibition; representatives of the Church, school, Nursing Station (2), Hamlet Council, Alcohol Education Committee, Territorial Government employees, the polling officer, the interpreter, respected elders (2), and active supporters of the action to prohibit alcohol (4).

Two individuals who were identified as being against the existing prohibition were not available to be interviewed; one individual was out of town and the second refused to be interviewed. All other individuals identified as important to the study were interviewed.

One individual did not understand the explanation of why the interview was being held and refused to answer any questions about the alcohol program. After a further explanation the interview was able to proceed.

The Interviews

In all cases when the interviewee was first contacted the research was explained briefly and the individual was asked if they would mind being interviewed; a convenient time and place was then decided upon for the actual interview.

At the beginning of the interview it was explained

the interviewer was trying to develop a nutrition program for the community. To do this it was important to know: the people which should be involved in the program and the best way to keep the people informed about the program and actions that needed to be taken. One method to gather this information was to study a different program which had been done in the community, in this case the vote on alcohol. The interviewee was then asked if they understood and if they had any questions. Any questions asked were answered as fully as possible. The interviewee was then asked if they would mind answering a few questions about the alcohol program. Seven people were interviewed by the investigator alone using this procedure.

Eight people were interviewed by the investigator and the interpreter. In these cases the interpreter made the first contact to explain the research and ask for an appointment. The same basic procedures were followed during these interviews. In each instance the investigator introduced herself and explained, as previously discussed, the reason for her visit to the community. After each sentence or expression of an idea the interpreter would give the interpretation. Any questions or comments of the interviewee were interpreted to the investigator for the necessary response. The interpreter then read one question at a time to the interviewee. The response was interpreted and the investigator was therefore able to ask for clarification of an idea and to take notes for future reference

before proceeding to the next question.

The atmosphere during the interviews was generally quite relaxed and friendly. The majority of interviewees made jokes or attempted to teach the investigator a few basic words in Inuktitut (their language). The interviews were held in the homes of the interviewees or at their place of work, whichever was the most convenient for them. Each interview lasted approximately 30 to 40 minutes.

The interpreter was one of the first people in the community to be interviewed. This was done for several reasons: she had been actively involved in the administrative details of the pre-plebiscite legislation and the plebiscite itself; her views were needed in order to determine if her personal viewpoints might bias the interpretation that was given; and it was important to determine if she felt the research and research method would be acceptable to community members. The same person was available for the eight interviews needing interpretation.

Limitations

There were several possible limitations in this study. The cross-cultural aspect of the study and particularly the translated interviews introduced the possibility of some misunderstandings or misinterpretations. This became obvious in several interviews in which the answers given appeared totally irrelevant to the question asked. In

actual fact, the answer was highly relevant but needed further explanation. Another aspect of this problem was the apparent lack of importance the Inuit place on time, in trying to clarify dates or order of events. This led to considerable confusion for the investigator.

The subject under investigation had been the source of considerable community tension several months prior to the interviews. Some interviewees were immediately defensive about their roles and others were extremely aggressive, these emotional reactions may have altered the way in which the facts were presented.

The interpreter was extremely cooperative and well accepted by those interviewed, however, her presence did offer certain biases. She attempted to avoid interviews with individuals she thought might be troublesome or she did not like. Occasionally Inuit interpreters refuse to translate questions or answers they find unpleasant. Although this was not evident in the present case, if it did occur it would introduce another bias. Finally, the interpreter was a community member and certain interviewees may have been reluctant to give their true feelings in her presence. It is believed the limitations associated with the use of an interpreter were minimized in the present study.

It has been mentioned that certain individuals could not comprehend how the study of alcohol prohibition related to developing a nutrition program. This confusion may have

been felt by others and may have influenced their comments, either to make them more wary of the interviewer or to try to cover their confusion by trying to impress the interviewer. This did not appear to be the case; most individuals appeared happy to answer any questions.

Another limitation associated with the present study was a sampling bias. Two or three family groupings tend to dominate the important community positions. Interviewees may also have tended to suggest their friends or family as prospective people to be interviewed.

In the present study, five people are known to be related to at least one other person interviewed and an additional five were known to be good friends of at least one other person interviewed. These relationships may have biased the results somewhat, but it is believed the equal and opposing views were expressed predominantly as a result of personal convictions. The opinions expressed by friends and relatives did not always agree.

A final limitation of this study may have arisen from a misinterpretation of the data due to the cross-cultural nature of the study.

Data Analysis

Data collected from the interviews, newspaper articles and letters on file in the Hamlet office were analyzed into separate and identifiable cells of fields, objectives,

critical incidents, and process phases.

The Shared Process Evaluation System (SHAPES)[4] was then used as a method to further analyze the results and to visualize the process involved. The cells of identified information were plotted on the three matrices of the SHAPES system: Patterns of Shared Change; Patterns of Individual Change; and Patterns of Field Participation.

The data were also compared briefly to the Steps of Social Action discussed by Beal et al.[5]

The results of the analysis of data and a discussion of the implications of these results are discussed in detail in Chapter V.

Summary

While working as a nutritionist with Health and Welfare Canada the author identified a need for a community development approach to nutrition programs. A case study of the recent community action to prohibit the use of alcohol was chosen for the study design.

Informal focused interviews with 15 people were used as the major method of data collection. One additional individual had recently moved from the community having lived there for a period of four years and leaving shortly after the plebiscite was passed. This individual was interviewed to pretest the suitability of the interview guide.

The sample interviewed in the community consisted of both Inuit and non-Inuit; men and women; and the ages of interviewees ranged from young adults to respected elders. Individuals who were chosen to be interviewed held responsible positions in the community; had been involved, or were seen to be involved, in the action to prohibit alcohol; and/or were known to be against the existing prohibition. Two individuals who were identified as being against the existing prohibition were not available to be interviewed; one individual was out of town and the second refused to be interviewed.

Seven people were interviewed by the investigator alone. Eight people were interviewed by the investigator and the interpreter.

The major limitations of the study are believed to be related to the cross-cultural nature of the study. Misunderstandings may have arisen with either the questions asked or the reply. Misinterpretation of the data is also a possible limitation of cross-cultural research.

A sampling bias may have had a minor effect on the results of the study, but this is not believed to be the case.

The data were analyzed into cells labelled: fields, objectives, critical incidents, and process phases. The data were then plotted on the three matrices of the Shared Process Evaluation System: Patterns of Shared Change, Patterns of Individual Change and Patterns of Field Parti-

cipation. The results and discussion of their implications will be discussed in Chapter V.

Footnotes for Chapter IV

[1] Michael Corley Richardson, Community Development in the Canadian Eastern Arctic: Aspects of Housing and Education (Master of Arts Thesis, University of Alberta, 1976).

[2] Claire Selltiz, Marie Jahoda, Morton Deutsch and Stuart W. Cook, Research Methods in Social Relations (New York: Holt, Rinehart and Winston, 1965), p. 59; and Robert E. Stake, "The Case Study Method in Social Inquiry," Educational Researcher (February, 1978), pp. 5-8.

[3] R.K. Merton, M. Fiske and P.L. Kendall, The Focused Interview (n.p.: Free Press, 1956), p. ix.

[4] Dorothy Mackeracher, Lynn Davie, and Terry Patterson, "Community Development: Evaluation and the Shapes Approach," Journal of Community Development Society, Vol. 7, No. 2 (Fall, 1976), pp. 4-17.

[5] George M. Beal, Ross C. Blount, Ronald C. Powers, and John W. Johnson, Social Action and Interaction in Program Planning (Ames, Iowa: Iowa State University Press, 1966), pp. 75-89.

CHAPTER V

THE COMMUNITY ACTION TO PROHIBIT ALCOHOL IN AN INUIT COMMUNITY: AN ANALYSIS

Introduction

As discussed in Chapter I, by July 1, 1978 13 communities in the Northwest Territories had introduced alcohol controls such as rationing or prohibition.

The first Inuit community to request alcohol controls was Frobisher Bay in April, 1976.[1] At that time a petition was sent to the Commissioner of the Northwest Territories requesting the liquor store be closed. This action may have been one of the most important factors leading to the adoption of alcohol controls in other Inuit communities. A study of the effects of the closing of this liquor store found that the crimes related to alcohol consumption in Frobisher Bay were decreased. There were fewer intoxicated people in the streets, less violence, and fewer medical emergencies as a consequence of liquor related violence.[2]

The Liquor Ordinance of the Government of the Northwest Territories makes specific allowances for any community in the Northwest Territories to determine if they wish to have the possession, purchase, sale or transport of liquor

restricted within their boundaries. The Liquor Ordinance states:

Plebiscite

120. (1) Notwithstanding any provision of this Ordinance, where at least 20 qualified voters in a settlement or area petition the Commissioner to hold a plebiscite to determine whether the possession, purchase, sale or transport of liquor ought to be restricted in the settlement or area, the Commissioner may order that a plebiscite be held to determine the wishes of the qualified voters of the settlement or area.

Prohibition

(2) No plebiscite shall be held under subsection (1) in any settlement or area where a license of any of the following classes is in force:

(a) tavern license for the sale and consumption of beer;

(b) cocktail lounge license for the sale and consumption of liquor;

(c) dining room license for the sale and consumption of beer and wine in a public dining room;

(d) dining lounge license for the sale and consumption of liquor in a public dining lounge.

Restrictions

(3) A petition presented to the Commissioner pursuant to subsection (1) shall indicate the nature of the restrictions upon which it is desired to ascertain the wishes of the voters at a plebiscite.

Questions

(4) The questions on a ballot used in a plebiscite under subsection (1) shall reflect the content of the petition and may include such other questions as the Commissioner considers desirable.

Restricted Area

(5) Where at a plebiscite under subsection (1) at least 60 percent of the votes cast by the qualified voters of the settlement or area indicate that the possession, purchase, sale or transport of liquor ought to be restricted in the settlement or area, the Commissioner shall declare the settlement or area a restricted area.

Regulations

(6) When a settlement or area has been declared a restricted area, the Commissioner shall make regulations to carry into effect the result of the plebiscite and may prescribe the penalties that may be imposed for violations of the regulations. 1974(1st), c.7, s.2.[3]

This Liquor Ordinance allows a community the decision to prohibit the use of alcohol or develop control programs to restrict alcohol use. It requires that 20 people sign a petition to the Commissioner of the Northwest Territories requesting a plebiscite. This petition must state the type of restriction that is requested. The Commissioner may then order a plebiscite be held, at which time a minimum of 60 percent of the votes cast must favor the restriction described by the plebiscite. Approximately four weeks after the plebiscite the Commissioner's order is drafted and implemented. There is a $500 fine and/or 30 days in jail for breaching alcohol controls ordered by the Commissioner after such a plebiscite.

In several communities in the Northwest Territories an expanded approach has been tried to introduce liquor controls. A community first votes on a plebiscite requesting total prohibition. If this plebiscite does not receive

the necessary 60 percent majority, a second plebiscite is held amost immediately requesting some other form of alcohol controls -- usually rationing. In this manner the community is offered three choices: total prhoibition, alcohol restrictions, or maintenance of the status quo.

It should be noted that the Commissioner and the Territorial Government, play an important role by informing the community of their options, describing the necessary procedures required to hold a plebiscite and explaining the possible consequences and restrictions resulting from the plebiscite. If accurate and complete information is not made available to the community and a plebiscite is held, a number of misunderstandings may develop and lead to confusion and bad feelings among community members.

In many of the smaller Inuit communities, alcohol is not yet a major problem. However, having heard of the problems related to alcohol consumption in Frobisher Bay before the closure of the liquor store these communities are anxious to prevent the development of similar problems.

During the study the Frobisher Bay liquor store was closed to the people of Frobisher Bay. However, members of the smaller communities in the region could still order their liquor by mail through this outlet. When a plebiscite to prohibit alcohol in a ccmmunity was passed members of that community were no longer allowed to order liquor from Frobisher Bay or any other liquor outlet.

Synopsis of the Community Action

The following synopsis is based on information gathered at the interviews with community members and from the northern newspapers. The newspaper articles reporting on the community actions to prohibit alcohol were obtained from three major sources: TAPWE, News of the North and Nunatsiaq News between the dates September, 1976 and July, 1978.

At the time of the plebiscite there were very few problems related to alcohol abuse in the community under study. Two or three families had members who drank and caused family problems, such as marital problems and family arguments, but these problems did not directly affect other community members.

In spite of the fact that few medical, legal or social problems resulted from the use of alcohol many community members felt action to control the consumption of alcohol was needed. Alcohol was not part of the traditional Inuit culture and its use by the younger Inuit frightened the elderly. The elderly felt alcohol was leading the young away from the Inuit way of life. In addition, many community members were very religious and the actions of those under the influence of alcohol were frequently contradictory to the teachings of the church. And finally, several community members noticed the amount of alcohol being ordered and the number of people who were "drinking too much" were increasing. These community members wished to correct the

situation before the problems reached the magnitude and severity previously experienced by the community of Frobisher Bay.

In 1974, an Alcohol Education Committee was initiated to help the community learn about alcohol and to prevent a problem from arising. The committee held public meetings annually using films, guest speakers and discussions about the various aspects of alcohol use and abuse to educate community members. Through these meetings the people learned of the problems associated with alcohol abuse and became interested in controlling alcohol consumption.

The Alcohol Education Committee received a grant of over $30,000 for a drop-in center in 1975 and another $19,000 for this drop-in center in 1977. These grants were later interpreted by some community members opposed to alcohol controls as incentives for the community to fabricate the existence of an alcohol problem. The grants could then be requested to help solve the problem.

In 1976, the Alcohol Education Committee became concerned that a few people were ordering and drinking too much. In October, they held a public meeting at which they recommended the use of a rationing system consisting of: two bottles of 26 ounces of hard liquor, or six bottles of wine or four cases of beer per month. They also recommended that liquor orders be reviewed and approved by a committee before being submitted to the Frobisher Bay liquor store. However, during the course of the meeting the more vocal

non-drinkers pushed for total prohibition in the community.

Shortly after the meeting the Alcohol Education Committee circulated a petition calling for an end to the flow of alcohol from Frobisher Bay into the community. This first petition was signed by over 100 people, but was rejected by the Territorial Government in Yellowknife as being invalid.

In November, 1976, the Commissioner of the Northwest Territories toured the communities in the Baffin Region. At a public meeting the vocal non-drinkers asked the Commissioner to prohibit alcohol in the community. He explained he could not institute prohibition without a plebiscite, but offered to close the liquor store in Frobisher Bay to community residents. A stand-up vote was held in which 139 people supported and 11 opposed the immediate closure of the liquor store. The Commissioner then ordered that Frobisher Bay liquor store be closed to this community and that the people must apply to the Regional Director in Frobisher Bay for an import permit to order alcohol from Yellowknife or Montreal. Many people who believed this public meeting was to discuss a school annex and a new air-strip were angry when they heard a vote had been taken and the liquor store had been closed.

The Commissioner returned to the community in February, 1977 specifically to determine if the community wanted to hold a plebiscite to prohibit alcohol. At the public meeting the majority of residents who spoke favored some type

of alcohol controls; however, no agreement was reached as to the type of controls that were needed. A spokesman for the Alcohol Education Committee again recommended rationing; but others complained that rationing would merely increase the flow of alcohol into the community.

There was considerable confusion about the technicalities of the liquor regulations. Some thought the community already had prohibition and were upset to find liquor could still be ordered. Others felt the Alcohol Education Committee had not consulted the community before requesting controls.

A Minister of the Government of the Northwest Territories travelling with the Commissioner suggested a second petition be circulated. This petition was signed by 26 people, however, like the first petition, it was not accepted by the legal division of the Territorial Government.

The Commissioner suggested community members request assistance from the Department of Local Government in Frobisher Bay before planning the plebiscite. The Local Government consultant discussed the wording and date of the plebiscite with the Alcohol Education Committee and the Hamlet Council. It appears there was still considerable confusion as to whether the community wanted total prohibition or merely some form of alcohol rationing. The consultant is said to have insisted the plebiscite must be strictly a "yes" or "no" vote with no options for other possibilities.

In other communities two plebiscites were often held

immediately after one another. The first plebiscite offered total prohibition, if this was defeated the second plebiscite offered alcohol rationing. In this manner a community was given three options prohibition, rationing, or the status quo. These options were reported as not explained or made available to the community under study.

A third petition was drawn up with directions from the Local Government consultant, it was circulated and signed by over 20 people. This petition was accepted by the legal division in Yellowknife.

August 2, 1977 was chosen for the date of the plebiscite. This choice caused a great deal of bad feeling in the community after the plebiscite because of the number of people out of the community on that date. The teachers and many other government employees were out on holidays and unable to vote. In addition, many Inuit were out on the land at their summer camps and they too were unable to vote.

The Alcohol Education Committee and Hamlet Council chose this date because it was expected most of the Inuit would have returned to the community by this date before going hunting for caribou a few weeks later. Most of the teachers coming into the community did not meet the residency requirement to be eligible voters; therefore, the Alcohol Education Committee and Hamlet Council felt it was unnecessary to await their return.

Several individuals complained they were deliberately not told about or excluded from voting on the plebiscite.

Their accusations seem without grounds. Newspapers had reported the possible plebiscite months earlier. Notices had been posted in all major meeting places in the community one month prior to the plebiscite explaining when and where the plebiscite was to be held. Fifty-one percent of the eligible voters voted on the plebiscite. At the municipal elections held six months earlier, a time of year when most individuals were in the community, approximately 40 percent of the eligible voters voted. This would suggest the plebiscite received a better than average turnout of the voters.

On the day of the plebiscite 184 of a possible 356 eligible voters went to the polls. Seventy percent of the voters favored prohibition and 30 percent were opposed. One ballot was spoiled.

It has been suggested that many who voted for prohibition felt they were voting for some type of control, not necessarily prohibition, and that the type of controls would be decided upon after the plebiscite.

Shortly after the plebiscite and the order for prohibition, prohibiting the possession, use and transport of alcohol in the community several problems arose. Suspicion developed between Inuit and non-Inuit. Many non-Inuit openly defied the new order and the Inuit occasionally searched the garbage cans to find empty liquor bottles. There were several possible reasons for these reactions. Two major possibilities include: (1) the community members, both Inuit and non-Inuit, were not given sufficient informa-

tion to explain why prohibition was instituted or how it should be enforced; and (2) shortly after the order for prohibition was passed the seal skin prices, the economic base of the community, collapsed. The men could no longer hunt, they were unemployed, and this in itself would tend to increase the tension in the community.

At the time of the interviews the problems related to prohibition were still present but their importance was slowly decreasing. Several young people reported their social life had declined because the parties without alcohol were not as much fun. A few people suggested Inuit-non-Inuit social interaction had decreased because many non-Inuit were continuing to drink but not in the presence of the Inuit. Certain extremists from both the Inuit and non-Inuit groups were still using prohibition as a focal point for their disturbances.

Several people felt total prohibition was unnecessary and that some form of alcohol rationing would be more suitable. It was also mentioned that since alcohol had been banned other problems, not directly related to alcohol, were continuing to increase. It was felt when people recognized that not all their problems were a result of alcohol abuse, as was originally believed, there would be less support for total prohibition.

The plebiscite for prohibition was originally to cover a three year period, September, 1977 to September, 1980. However, because of the number of problems which developed

after the plebiscite and the large number of individuals who appeared to have misunderstood what the plebiscite meant, the Commissioner may allow a second plebiscite after only one year of prohibition. At the time of this writing no decision had been made regarding the second plebiscite.

Research Questions

Four research questions were asked at the beginning of this study. In this section these questions will be re-examined and where possible answers supplied from the data.

Relevant Fields

The first question asked: What or who are the potentially relevant fields necessary to legitimate a community program in an Inuit Community?

A "field" has been previously defined as "an individual, group, subgroup, and/or institution or its representative(s). A field must function within the community development project as if all individual members shared common goals and as if they were committed in their actions to reaching those goals."[4]

The relevant fields identified in the present study were:

1. Alcohol Education Committee: a committee of community members interested in alleviating or preventing community problems.

2. Church Minister: supported but did not feel he promoted prohibition from the pulpit. Although he did not actively promote prohibition he was observed voting at the public meetings, this may have influenced the very religious individuals in the community.
3. Elderly and Church People: repeatedly expressed their fears and opinions to all community members, until eventually, it became popular to support prohibition and unpopular to support alcohol rationing.
4. Three Middle Aged Women: they each had family problems related to alcohol abuse. These women would accept nothing less than total prohibition and were a major force in maintaining pressure to achieve prohibition. They were very vocal at public meetings and held small meetings in their homes to discuss prohibition.
5. Commissioner of the Northwest Territories: provided a focal point for two community meetings, ordered the closure of the Frobisher Bay Liquor Store to community residents, allowed the plebiscite to be held and issued the order for prohibition.
6. Government of the Northwest Territories: directed and regulated the procedures necessary to achieve prohibition. Rejected two community petitions as being invalid.

7. Department of Local Government Consultant: explained the policies and procedures to the Alcohol Education Committee and the Hamlet Council. Limited the plebiscite question to one choice.
8. Hamlet Council: elected legislative body in the community which worked with the Alcohol Education Committee on the administrative aspects of the plebiscite.
9. Inuit Community: members of the community involved in the prohibition of alcohol either before or after the plebiscite. Many of these individuals appeared misinformed about the plebiscite and became disruptive when the order for prohibition was passed.
10. Non-Inuit Opposed to Prohibition: remained inactive throughout the community action but openly defied the prohibition order because they felt their rights had been violated. In this instance the non-Inuit opposed to prohibition formed a relevant field which had not been adequately informed or involved.

In this study ten relevant fields were necessary to legitimate the community action to prohibit alcohol. However, two of these fields, fields nine and ten, were not adequately informed and they consequently did not legitimate the action; this resulted in community problems after the order for prohibition was passed.

Field Objectives

The second research question asked: Which objective held by individual fields may move them to shared activities in an action program?

Fields were moved to share activities in the action program by the following individual objectives.

1. To prevent the development of serious community problems. Brought about by the realization that alcohol consumption and alcohol related problems were increasing.
2. To maintain the importance of the family. Developed from a fear that the importance of the family would be destroyed if teenagers and adults continued to drink.
3. To develop and maintain the "Inuit way of life". Brought about by the realization that the young adults were no longer going hunting or "out on the land" with their parents to learn the Inuit way of life; and a belief that the problem would grow worse if drinking in the community was allowed to continue.

It is believed these objectives were shared to varying degrees by the Alcohol Education Committee, the elderly, the church people, the three women, the minister, the Commissioner and the Territorial Government. These fields tended to view the Inuit family and way of life as important in the prevention of future socio-economic problems.

The non-Inuit opposed to prohibition did not share the same objectives. Their primary objective was to protect their individual rights. They may have sympathized with the other relevant fields but did not feel they should be forced to support the Inuit family and way of life by relinquishing their own way of life. The individuals in this field had no desire to share activities in the action program, and consequently remained uninvolved until after the action was taken.

Critical Incidents

The third research question asked: Which critical incidents may affect the development and implementation of a community program either positively or negatively?

Critical incidents have been previously defined as activities which are clearly distinguishable and which stand out as essential to the on-going processes. A critical incident is usually a meeting, a series of planning activities, or an implementation activity.[5]

The critical incidents which affected the development and implementation of the community action either positively or negatively are believed to be the following:

1. Alcohol Education Committee public meetings: held annually from 1974-1976. These meetings informed the community of possible problems and solutions related to alcohol use and abuse.
2. Alcohol Education Committee public meeting,

October, 1976: committee suggested some people were ordering too much alcohol and recommended rationing be implemented. Vocal non-drinkers pushed for prohibition.

3. First petition: over 100 individuals signed but petition was declared invalid by Government of the Northwest Territories. The rejection of the petition may have had a negative effect on the community actions. Many people thought they had already voted for prohibition and could not understand the subsequent actions to prohibit alcohol.
4. Commissioner's public meeting in November, 1976: stand-up vote taken to stop the sale of liquor to the community from the Frobisher Bay liquor store. Confusion resulted from poor explanations of what had transpired, several community members became angry because they were not aware a vote on alcohol was taken at this meeting; others became angry later when they discovered alcohol could still be ordered into the community with import permits.
5. Commissioner's public meeting in February, 1977: vocal non-drinkers requested a plebiscite to prohibit alcohol. A second petition was circulated but later rejected. Again the people felt they had voted.
6. Third petition: circulated and accepted.
7. Plebiscite planned: Hamlet Council, Alcohol Educa-

tion Committee, and a Department of Local Government consultant worked together. The question on the plebiscite read: "Do you want liquor in... [name of community]? Yes ___ or No ___." The plebiscite question did not allow community members to choose the type of alcohol control they wished to implement. This action had perhaps the most negative effect on the acceptance of the action to control alcohol in the community.

8. Plebiscite in August, 1977: date of plebiscite was considered by community members to have had a very negative effect on the acceptance of prohibition. The date of the plebiscite probably did not have a major impact on the results. However, it did allow certain groups to protest they had been deliberately excluded and this led to many serious problems for the community.
9. Order of Prohibition, September, 1977: Commissioner issued the order prohibiting the possession, purchase and transport of liquor in the community.

Nine critical incidents leading up to the total prohibition of alcohol in the community have been discussed. Positive steps were taken in critical incidents one, two and three; these appear to relate to a general Inuit consensus that it would be of value to try to prevent the development of serious community problems related to alcohol abuse and that some form of alcohol controls would help achieve their

objectives. Negative aspects begin to appear in critical incident three and occur quite frequently thereafter. The negative aspects result from an inability to achieve consensus on the type of control that is desired and frequent misunderstandings about the policies and procedures that were being implemented. The legal procedures are not part of the Inuit culture and therefore require explanations and opportunities for questions to be answered. These incidents suggest inadequate explanations were given for each action. Several actions were taken on the "spur of the moment" and this added to the concern and confusion.

Process Phases

The fourth research question asked: "In which process phases do the relevant fields become most actively involved?"

Mackeracher, Davie and Patterson identify six general categories of activity as follows:

Pre-Identification of Needs Phase

1. Involves disorganized activities in which there is no sense of commitment to shared objectives, no community coalescence, and no shared process. The disorder is related more to fields working at cross-purposes or independently, and to general dissension, than to lack of planning.

Pre-Action Phases

2. Identification of Needs: activities which provide fields with an opportunity to hear opinions from other Fields and to gather facts about the community, and which provide a sense of shared progress toward the identification of individual and shared community problems.

3. Objective Setting: activities which allow fields to come to some agreement about community goals (desired ends) and which provide a sense of shared progress and commitment to finding the means for reaching those objectives.

4. Planning: activities which allow fields to come to some agreement about the means to be used to reach community objectives and which provide a sense of shared movement toward those goals.

Action Phase

5. Involves activities which allow delegated fields to implement the means agreed on and which provide a sense of concrete and specific action and movement in the direction of shared objectives. Community fields can share a sense of accomplishment even if they do not participate directly in the action steps.

Reaction Phase

6. Involves activities which allow fields to evaluate the action steps and reassess community needs, objectives, and plans based on what has occurred to date. Seen in this perspective, the reaction phase is formative and prescriptive and usually leads directly back to need identification. For communities which terminate their shared existence or for fields which terminate their involvement in the community, this reaction phase is seen as summative and descriptive.

We assumed that most communities would proceed through these various activities in a linear fashion over time, with possible repetitions of the pre-action phases in small cycles before the major action phase. We further assumed that not all fields would be involved in all phases and that those directly involved in the action phase might be a small, specialized group of delegated and representative fields.[6]

The process phases in which the relevant fields perceived they were being most active are believed to be as follows:

1. Pre-Identification of Needs Phase: included such non-directed activities as the Alcohol Education

Committee's annual public meetings; the complaints of the elderly and church people about the young using alcohol; and the family confrontations experienced by the three women whose families had a problem drinker.

2. Identification of Needs Phase: involved meetings such as the Alcohol Education Committee's public meeting in October, 1976, and the meetings held in the homes of the three women. These meetings allowed an exchange of ideas and opinions in order to gather facts about the community and possible solutions to the alcohol problems. At this time the Alcohol Education Committee recommended alcohol rationing; the elderly, church people and the three women requested total prohibition; and the general community and non-Inuit community members, if they attended, had an opportunity to express their views. After this phase each relevant field appears to interpret the critical incidents as a different phase in the process.
3. Objective Setting: was shared by the Alcohol Education Committee, the Church Minister, the Commissioner, Territorial Government, Department of Local Government, Hamlet Council and Inuit community. The critical incidents related to objective setting differed between these fields; the Commissioner and Territorial Government appeared

to reach the objective setting phase more slowly than the other fields.

The elderly, church people and three women omitted the objective setting and planning phases and perceived all critical incidents after the Alcohol Education Committee meeting held in October, 1976, as active phases. This misinterpretation of the intervening critical incidents was a source of confusion and frustration for all community members.

4. Planning Phase: involved the Alcohol Education Committee, the Hamlet Council and the Department of Local Government consultant. It is believed the consultant limited the planning; the Alcohol Education Committee still favored rationing rather than total prohibition but this option was not made available in the planning stage.
5. Action Phase: considered by most fields to be the plebiscite and the order for prohibition. However, the Inuit community felt they were voting for alcohol controls with the specific type of control to be decided after the plebiscite; for this field the plebiscite represented a planning phase.

After the order for prohibition was passed both the Inuit community and the non-Inuit opposed to prohibition appeared to pass into a pre-identification of needs phase. Disorder resulted as fields began to work at cross-purposes leading to

general dissension.

6. Assessment and Replanning Phases: initiated at the time of the interviews. There was insufficient data available to make generalizations.

Mackeracher et al. have suggested that by studying the visual pictures provided by the three SHAPES matrices, "Patterns of Shared Change", "Patterns of Individual Change", and "Patterns of Field Participation", it is possible to consider what process actually occurred and how effective it was.[7] The following section will include a discussion of the information provided by the three SHAPES matrices and also a brief discussion of the steps to social action proposed by Beal et al.[8]

Discussion of Results

Shapes Matrices

A. Patterns of Shared Change

In this matrix the process phases are plotted along the horizontal axis and the time sequence of critical incidents along the vertical axis. A code letter for each field is entered in the appropriate phase cell for each critical incident. The visual pattern which emerges shows the amount of shared perceptions about what happened during the various activities (see Table 2).[9]

Table 2 illustrates that until the first petition was

TABLE 2

PATTERNS OF SHARED CHANGE

Key

Relevant Fields

A. Alcohol Education Committee

B. Church Minister

C. Elderly and Church People

D. Three Middle Aged Women

E. Commissioner of the Northwest Territories

F. Government of the Northwest Territories

G. Department of Local Government Consultant

H. Hamlet Council

I. Inuit Community

J. Non-Inuit Opposed to Prohibition

TABLE 2 (CONTINUED)

Critical Incidents	Phases					
	Pre-Identification of Need	Need Identification	Objective Setting	Planning	Action	Assessment & Replanning
1. Alcohol Education Committee (A) Annual Public (C,D,I) Meetings	A,C,D,I					
2. Alcohol Education Committee Public Meeting October, 1976		A,C,D,I				
3. First Petition: Rejected by Territorial Government (F)	F		A,I		C,D	
4. Commissioner's (E) Public Meeting November, 1976: Vote to Close Liquor Store	J	E	A,B,I		C,D	
5. Commissioner's Public Meeting, February, 1977: Petition #2 Rejected	F		A,E,I		C,D	
6. Third Petition: Circulated and Accepted			A,F,G, H,I		C,D	
7. Plebiscite Planned: Alcohol Education Committee, Hamlet Council (H), and Dept. of Local Government Consultant (G)				A,G,H		
8. Plebiscite in August,1977			I		A,C,D,H	
9. Order of Prohibition, September, 1977	I,J				A,C,D, E,F,H	

rejected there had been a sharing of perceptions by the relevant fields. After the first petition very few perceptions were shared by the relevant fields. The most noticeable differences in perceptions occurred between the Alcohol Education Committee and the Inuit Community as compared to the elderly and the church people and the three women. The latter two groups perceived that action had been taken with each petition or vote. The repeated delays and petitions added to their confusion and frustration.

Another area where significant differences in perception occurred was with the prohibition order. The Inuit community and the non-Inuit opposed to prohibition returned to a pre-identification of needs phase while the remaining relevant fields perceived the same critical incident as an action phase. These differences in perceptions eventually resulted in a state of hostility in the community.

B. Patterns of Individual Change

The Patterns of Individual Change matrix plots individual fields along the horizontal axis and the time sequence of critical incidents along the vertical axis. The phase identifications are entered in the appropriate cells. This matrix provides a behavioral pattern characteristic of each field throughout the project.[10]

Table 3 illustrates that the Alcohol Education Committee was the most involved in all phases of the process. As a well established committee in the community, it was able

TABLE 3

PATTERNS OF INDIVIDUAL CHANGE

Key

Relevant Fields

A. Alcohol Education Committee

B. Church Minister

C. Elderly and Church People

D. Three Middle Aged Women

E. Commissioner of the Northwest Territories

F. Government of the Northwest Territories

G. Department of Local Government Consultant

H. Hamlet Council

I. Inuit Community

J. Non-Inuit Opposed to Prohibition

TABLE 3 (CONTINUED)

Critical Incidents	Fields									
	A	B	C	D	E	F	G	H	I	J
1. Alcohol Education Committee Meetings	Pre-Ident.		Pre-Ident.	Pre-Ident.					Pre-Ident.	
2. Alcohol Education Committee Meeting Oct./76	Need Ident.		Need Ident.	Need Ident.					Need Ident.	
3. Petition #1	Obj. Set.		Act.	Act.		Pre-Ident.			Obj. Set.	
4. Commissioner's Meeting: Nov./76	Obj. Set.	Obj. Set.	Act.	Act.	Need Ident.				Obj. Set.	Pre-Ident.
5. Commissioner's Meeting: Feb./77	Obj. Set.		Act.	Act.	Obj. Set.	Pre-Ident.			Obj. Set.	
6. Petition #3	Obj. Set.		Act.	Act.		Obj. Set.	Obj. Set.	Obj. Set.	Obj. Set.	
7. Plebiscite Planned	Plan.						Plan.	Plan.		
8. Plebiscite	Act.		Act.	Act.				Act.	Plan.	
9. Prohibition Order	Act.		Act.	Act.	Act.	Act.		Act.	Pre-Ident.	Pre-Ident.

to sustain productive activity throughout the community action process.

The Church Minister appears to have been directly involved in only one critical incident. It is possible he attended all the public meetings but this was not reported in the interviews. His role was primarily to show support for total prohibition and allow the church followers to proceed with the necessary steps.

The elderly, church people and the three women with family problems showed similar patterns of change. Both these fields were involved in the pre-identification of needs phase and the needs identification phase. However, after the first petition they believed all necessary action had been taken. They did not recognize the need for objective setting and planning. Their objectives were already set, total prohibition, and no planning was necessary except to ask the Commissioner to order prohibition. In many ways these fields exhibited an ignorance of the total situation and an unwillingness to consider possible alternatives. While their unilateral approach did achieve the action they required it also caused a great deal of hostility in the community which may eventually undermine what they have achieved.

The Commissioner, although he was only involved in a few critical incidents, played an important role in this process. His presence served as a focal point for community meetings and his support of the action helped to speed the process. However, his willingness to act immediately on the

wishes expressed by the members present at the community meetings confused many members at the meeting and angered several who had not been given the opportunity to vote. This meeting had not been called to discuss alcohol controls or prohibition; many people thought it would discuss a school annex and a new air strip.

The Territorial Government as represented by directives issued from Yellowknife did very little to help the community understand the policies which it was being forced to follow. Two petitions were rejected, including one that had been initiated by a Territorial Minister. Each rejection of a plebiscite suggested the government felt the community was still at the pre-identification of needs phase while the community felt it had reached a more advanced stage in the process.

The Department of Local Government consultant was involved in objective setting and planning with the Alcohol Education Committee and the Hamlet Council. Although these fields appeared to perceive their actions as being objective setting and planning, it is doubtful that the objectives that were set were shared by the three fields. It is believed the Hamlet Council and Alcohol Education Committee were not made aware of all the possible alternatives available. There may have been several reasons for this lack of awareness: the consultant may not have been aware of alternative solutions, this was a new type of action occurring in the region at the time; the consultant was unable to communi-

cate the necessary information to the other fields because of its complexities and the difficulties in translating technical concepts into the Inuit language; or the fields did not inform the consultant they had been considering rationing as an alternative to prohibition. For whatever reason, the total range of options was not made available or explained to the community.

The Hamlet Council was involved primarily in the administrative aspects of the process. Its behavior was similar to that of the Alcohol Education Committee but over a much shorter period of time.

The Inuit community had perhaps the most interesting behavioral pattern. It appeared to follow the prescribed format of process phases until the planning phase when it discovered action rather than planning was intended. At this stage this field resorted to a pre-identification of needs phase.

The non-Inuit opposed to prohibition may have been willing to accept rationing if it had been included on the plebiscite. However, the need for prohibition was not obvious to this field. Family, medical, and legal problems associated with alcohol abuse were quite uncommon in the community. They did not share the fear of the older Inuit regarding the effects of alcohol on an individual. And many felt that prohibition was an infringement of their rights. This field remained in the pre-identification of needs phase throughout the community action.

C. Patterns of Field Participation

The third matrix plots individual fields along the vertical axis and the process phases along the horizontal axis. The code numbers for the critical incidents are entered in the appropriate cells. This provides an illustration of the process phases in which each field is most actively involved.[11]

Table 4 illustrates the process phases in which each field was most active. From this illustration it can be seen that objective setting involved the greatest number of fields, the action phase also involved a large number of fields.

The planning phase had the smallest number of fields participating. Given the size of the population and complexity of the problem a small planning committee was probably the most practical. However, only one or two critical incidents occurred in the planning phase; a greater effort to allow fields to become involved in the planning phase may have alleviated a considerable number of the misunderstandings which later arose.

D. Stress Patterns

Mackeracher et al. have identified seven stress patterns.

> These occur when (1) one field moves to a pre-identification of needs phase after having moved to a more positive phase; (2) when one field never moves out of a pre-identification of needs phase; (3) when one or two fields describe most activities as action steps

TABLE 4

PATTERNS OF FIELD PARTICIPATION

Key

Critical Incidents

1. Alcohol Education Committee Meetings
2. Alcohol Education Committee Meeting, October, 1976
3. Petition #1
4. Commissioner's Meeting, November, 1976
5. Commissione-'s Meeting, February, 1977: Petition #2
6. Petition #3
7. Plebiscite Planned
8. Plebiscite
9. Prohibition Order

TABLE 4 (CONTINUED)

Fields / Phases	Pre-Identification of Need	Need Identification	Objective Setting	Planning	Action	Assessment & Replanning
A. Alcohol Education Committee	1	2	3,4,5,6	7	8,9	
B. Church Minister			4		3,4,5,6 7,8,9	
C. Elderly and Church People	1	2			3,4,5,6, 7,8,9	
D. Three Women	1	2			9	
E. Commissioner		4	5			
F. Territorial Government	3,5		6		9	
G. Dept. of Local Government Consultant			6	7		
H. Hamlet Council			6	7	8,9	
I. Inuit Community	1,9	2	3,4,5,6,7	8		
J. Non-Inuit Opposed to Prohibition	4,9					
Total Number of Fields Participating in Each Process Phase	6	5	7	4	6	N/A

> while the same activities are consistently described as pre-action steps by most other fields; (4) when fields remain in pre-action phases without ever moving to an action phase; (5) when fields describe only action steps without any pre-action phases; (6) when two sets of fields hold mutually exclusive objectives; and (7) when one field carries the major share of the work while few others are continuously involved.[12]

In this study four relevant fields experienced four of the seven stress patterns: (1) the Inuit community moved to a pre-identification of needs phase after having moved to a more positive phase; (2) the non-Inuit opposed to prohibition never moved out of the pre-identification of needs phase; (3) the elderly and church people, and the three women described most activities as action steps while the same activities were consistently described as pre-action steps by most other fields; and (4) the Inuit community and non-Inuit opposed to prohibition remained in pre-action phases without ever moving to an action phase.

Mackeracher et al. suggest "stress has the potential for either negative influence on the total project or positive learning and change. The fields involved must be able to detect such stress in order to use it for positive gains."[13] It is doubtful that the fields involved in this action were able to detect the stress and use it for positive gains. A large proportion of the population was represented in the group experiencing stress. Perhaps these stress patterns help to explain the problems that arose after prohibition was implemented.

Steps of Social Action

Beal, Blount, Powers, and Johnson discussed social action as an aspect of program planning in a community and developed a 34 step process for achieving planned change. Their stated objective was to "provide specific insights, hypotheses, and generalizations about the process of program planning."[14] As these steps of social action were developed to help change agents understand and generalize about program planning and they appear to incorporate all the elements identified in Chapter II as components of community development, it would be useful to compare briefly the results of the present study with these steps to social action.

To determine if the steps to social action were successfully achieved a checklist was developed to compare the recommended steps (outlined in Chapter II) with the actual community actions. The results of this comparison can be seen in Table 5. The first column lists the steps to social action; the second column notes if the action was achieved; and the third column names the relevant fields involved, the critical incident which occurred or comments on why the step was not successfully completed.

The information in Table 5 shows five of the important steps to social action were not completed: Evaluation, Prior Social Situation, Delineation of Relevant Social Systems. Formulation of Goals and Decisions on means to be used.

TABLE 5

STEPS OF SOCIAL ACTION

Step to Social Action	Action Achieved	Relevant Field/ Critical Incidents/ Comments
1. Analysis of Existing Social Systems	✓	Alcohol Education Committee Annual Meetings.
2. Convergence of Interest	✓	Alcohol Education Committee, elderly, church people, three women.
3. Evaluation	No	Evaluation was notably absent throughout the entire action.
4. Prior Social Situation	No	Planning groups did not understand the expectations, patterns of communication, or organizational methods and structures.
6. Delineation of Relevant Social Systems	No	Non-Inuit opposed to prohibition not involved.
8. Initiating Steps	✓	Alcohol Education Committee.
10. Legitimation with Key Leaders	✓	Commissioner, Minister, Hamlet Council.
12. Diffusion Sets	✓	Elderly, church people, three women, Alcohol Education Committee.

TABLE 5 (CONTINUED)

Step to Social Action	Action Achieved	Relevant Field/ Critical Incidents/ Comments
14. Definition of Need by the More General Relevant Social Systems	✓	Alcohol Education Committee Public Meetings, Commissioner's Public Meetings.
16. Commitment to Action	✓	Alcohol Education Committee, elderly, church people, three women, Inuit community.
18. Formulation of Goals	No	Goals (total prohibition or alcohol controls) were not formalized by the more general target system.
20. Decision on Means to be Used	No	No decision made as to which means and methods (plebiscite or other) were to be used.
22. Plan of Work	✓	Alcohol Education Committee, Hamlet Council, Department of Local Government Consultant.
24. Mobilizing Resources	✓	Alcohol Education Committee, Hamlet Council.
26-32. Action Steps	✓	Plebiscite and order of prohibition.
34. Continuation	N/A	Insufficient data.

When these results are examined it is noted that the five steps omitted all relate to the "planning" aspects of the community action rather than the "action" aspects. For example, the planning groups were not aware of the prior social situation. They did not try to understand the various expectations of the relevant fields; they did not understand the patterns of communication between Inuit and non-Inuit groups; and they did not understand the organizational methods and structures that were necessary to ration or prohibit alcohol. Secondly, all relevant social systems (fields) were not delineated. The non-Inuit opposed to prohibition were not approached or made aware of the intended actions. Thirdly, the community did not formalize their goals. The general community did not agree on the type of alcohol controls that were desired, prohibition or rationing. Fourthly, the community never made a formal decision on the means or methods to be used to achieve the action. A plebiscite was held but other methods may have been more appropriate for the community. And finally, no attempt was made to evaluate the process before the action was completed. Even after the action had been completed a formal evaluation did not occur until community dissatisfaction made it necessary.

Summary

The three SHAPES matrices and the table comparing the steps to social action with actual community actions provided

several similar observations. The SHAPES matrices illustrated four stress patterns. Three of these stress patterns may have resulted from the omission of formalized goals as identified in the steps to social action. The three patterns of stress include: (1) the Inuit community field moved to a pre-identification of needs phase after having moved to a more positive phase, (2) the non-Inuit opposed to prohibition never moved out of the pre-identification of needs phase, and (3) the Inuit community field and non-Inuit opposed to prohibition remained in the pre-action phases without ever moving to an action phase. The latter two stresses listed also relate to the inadequate delineation of relevant social systems as identified in the steps to social action. Since the non-Inuit opposed to prohibition were not delineated as a relevant field they were not included in the subsequent steps or phases of action. The fourth stress could be compared with the lack of knowledge of the planning groups. The elderly, church people and three women did not understand the expectations of the larger community, they did not understand the organizational methods and structures that were necessary to achieve the desired action. This lack of knowledge could explain the stress pattern these fields exhibited when they described most activities as action steps while the same activities were consistently described as pre-action steps by most other fields.

Implications for Future Programs

After studying the data and identifying several areas of concern it is suggested that future action programs in an Inuit community make the following changes:

1. Complete pre-action and planning phases of the process thoroughly before initiating action phases: for example, present all alternatives to all the relevant fields in a simple and comprehensive manner before taking action.
2. Ensure that all consultants and advisors to the community explain, to the field's satisfaction, the policies and procedures being followed and give fields every opportunity to choose the appropriate action.
3. Formalize goals and decide on the means and methods to be used to achieve these community goals.
4. Expand the planning phase to inform more fields about the proposed actions and possible implications; reduce "spur of the moment" decisions.
5. Inform non-participating community members or fields through the appropriate media, of proposed actions and the possible implications of such actions.
6. Include evaluation steps throughout the action process and at the conclusion of the action.
7. Plan follow-up as part of the evaluation.

Summary

In this chapter a brief history of the community action to abolish alcohol was given. The four research questions asked at the beginning of the study were answered.

Ten relevant fields were identified, of which the Alcohol Education Committee, the elderly and the church people, the Commissioner, the Inuit community and the non-Inuit opposed to prohibition appear to be the most important.

The majority of field objectives centered around a desire to prevent future problems from developing; a desire to maintain the importance of the family; and a desire to maintain the Inuit way of life. A minority objective was the desire to protect individual rights.

Nine critical incidents were listed beginning with the introduction of the Alcohol Education Committee in 1974 and culminating in the order for prohibition in September, 1977. Several negative aspects of these critical incidents were mentioned, notably, that there appeared to be insufficient and inadequate explanation of the policies and procedures leading to the various actions that were required.

Each field was most active in a different process phase. The majority of fields were active in the objective setting and action phases. The least fields were involved in the planning phase.

The data was collected and plotted on the three SHAPES matrices: "Patterns of Shared Change", "Patterns of Indivi-

dual Change", and "Patterns of Field Participation".

A brief evaluation of the action program was given, identifying four patterns of stress experienced by four of the relevant fields. It was suggested that these patterns of stress had a negative influence on the total project and that future programs should attempt to alleviate or eliminate such patterns of stress.

The data was also compared to the Steps of Social Action developed by Beal et al. The information obtained from this comparison was similar to the information gained from the SHAPES matrices.

Seven suggestions were made for future programs in an Inuit community. These included completing all pre-action and planning phases before initiating action phases; explaining policies and procedures being used by consultants; formalizing goals and deciding on means and methods to achieve goals; expanding planning phase; informing non-participating community fields; evaluating; and planning follow-up.

Footnotes for Chapter V

[1] TAPWE (Hay River), June 22, 1977, p. 6.

[2] Ibid.

[3] Government of the Northwest Territories, An Ordinance to Provide for the Purchase, Sale and Consumption of Liquor in the Northwest Territories (1970), Chapter L-7, Part VII, Section 120 (Ottawa: Queen's Printer, 1970).

[4] Dorothy Mackeracher, Lynn Davie, and Terry Patterson, "Community Development: Evaluation and the Shapes Approach," Journal of Community Development Society, Vol. 7, No. 2 (Fall, 1976), p. 9.

[5] Ibid., pp. 9,10.

[6] Ibid., pp. 10,11.

[7] Ibid., p. 12.

[8] George M. Beal, Ross C. Blount, Ronald C. Powers, and John W. Johnson, Social Action and Interaction in Program Planning (Ames, Iowa: Iowa State University Press, 1966), pp. 75-89.

[9] Dorothy Mackeracher, Lynn Davie, and Terry Patterson, op. cit., p. 12.

[10] Ibid.

[11] Ibid.

[12] Ibid., p. 15.

[13] Ibid., p. 12.

[14] George M. Beal, Ross C. Blount, Ronald C. Powers, and John W. Johnson, op. cit., p. 13.

CHAPTER VI

A COMMUNITY DEVELOPMENT APPROACH TO NUTRITION PROGRAMS: A MODEL

Introduction

In this chapter information gained from the review of literature and analysis of data will be synthesized into a model for a community development approach to nutrition programs.

The review of literature identified six elements of planned change which included the following: (1) change agent, (2) client system, (3) goals, (4) strategies and tactics, (5) structuring of change, and (6) evaluation.[1] The strategies and techniques identified varied with the biases and abilities of the change agent and client system. The present model will incorporate one of the strategies identified as acceptable for community change, the cooperation/collaborative strategy which involves working together toward mutual goals. In addition a combination of Warren's two models of change will be included in this model, notably, an inclusion of rational-calculation in the concrete-processual model.[2]

In discussing community development in Chapter II Biddle and Biddle's definition of community development was

given, "a social process by which human beings can become more competent to live with and gain some control over local aspects of a frustrating and changing world."[3] Compton's definition of the "community development process" was also given, "[a] series of stages from very simple problem solving to applying the competence gained to more complex situations through which people and communities progress in achieving objectives and effecting change."[4] These definitions of community development will form the basis for the approach in the present model.

The 34 steps to social action developed by Beal et al. incorporate the elements, strategies, models and definitions to be included in the present model. These steps can also be adapted to meet the specific needs of a nutrition program in an Inuit community. For these reasons the format of the present model will closely follow the steps to social action developed by Beal et al.[5]

Evidence of malnutrition was presented in Chapter II illustrating the need for improved nutrition. The high incidences of malnutrition appeared to be related to a decrease in the consumption of traditional foods and a concommitant increase in the consumption of imported foods of low nutritional quality.

Until recently the Inuit did not understand the relationship between the imported foods of low nutritional quality and their declining health. They assumed the imported foods were as nutritious as their aboriginal diet. Consequ-

ently, early nutrition programs were developed to help the Inuit understand that the type of foods they ate affected their health and the health of their children both directly and indirectly. As a result Inuit communities are now requesting more information and assistance. They wish to improve the nutritional quality of the food sold in their community and the eating habits of community members, notably, children and young adults. Suggestions from community members have included implementing or improving school snack programs; encouraging local businesses to sell nutritious snacks; and teaching the women how to use traditional foods in non-traditional dishes.

Additional nutrition information is only a part of the solution to the problems of Inuit malnutrition. Community members must also work together to develop new methods and programs to achieve improved nutrition for their children and community. Individuals, committees, and groups in the communities have demonstrated an interest in community nutrition programs and have requested assistance from external agencies to help them initiate programs. It is believed a community development approach to nutrition programs will help these communities reduce the incidence of malnutrition. This approach may also provide a degree of competence in achieving community goals through a process of planning and action to be used in more complex situations.

The present model pertains to the community in which the action to prohibit alcohol was studied.

Development of a Model

Analysis of the Existing Social Systems

Traditionally, the Inuit had an informal social system. The family was the major social unit with the hunter as the head. This social system remains predominant, however, the importance of the family is declining as their life style moves away from a hunting economy to a wage economy. In the near future it is possible a more hierarchical social system will develop with elected local government members providing the leadership. However, in the present study the family was the social system of major importance.

The power to be wielded within the community does not appear to be extensive. The Hamlet Council has perhaps the most power in the community although the major source of power still appears to filter down from the Territorial and Federal governments in Frobisher Bay, Yellowknife, and Ottawa. Several local committees such as the Health Committee, Education Committee, and Alcohol Education Committee have status roles although their actual power is limited.

Major subsystems within the community include the church and its members, the school teachers, and the local businesses.

Convergence of Interest

In the Northwest Territories two government departments are responsible for food and nutrition programs: Medical Ser-

vices, Health and Welfare Canada, and the Department of Education, Government of the Northwest Territories. Within the community the Health Committee and Education Committee have a specific interest in nutrition programs. The change agent should attempt to achieve a convergence of interest between representatives of these fields. If this is achieved the nutrition program will be provided with a wide range of resources within and outside the community.

It is mandatory that convergence of interest be achieved with community members. The community development process cannot be initiated if the community is not involved in the early stages of the program. And, at the present time neither of the two government agencies have the personnel or resources to maintain the program on a day-to-day basis, consequently, this responsibility must rest with the community members.

It is important that a formal agreement be reached as to the nature of the problem before the program progresses. If common agreement between all converging parties is not reached at this stage problems may develop in the later stages of action.

Evaluation

Evaluation should be continuous throughout the program. It is particularly important that community awareness and understanding of the program be evaluated regularly. If at any time community members appear to misunderstand the pro-

gram, steps should be taken to correct the situation before progressing. Evaluation will be discussed in greater detail near the end of this model.

Prior Social Situation

Consultants must be aware of the situations which existed prior to the initiation of the program and immediately prior to his/her involvement. If the immediate situation is perceived incorrectly, problems may develop at a later stage. In the action to control alcohol the consultant was unaware that a concensus for prohibition had not been reached. Consequently, he limited the type of action offered to the community and this limitation severely hampered the success of that program.

The plebiscite for prohibition illustrates two important considerations for program planning in Inuit communities. Firstly, programs should be organized to occur in the months of October to May. During the summer months the majority of the Inuit prefer to spend their non-working hours "on the land" and are unavailable for community programs. Secondly, legislation to correct possible community problems may cause fear and resentment among community residents as some individuals fear their rights are being infringed upon. For this reason it was mentioned during the interviews that no attempt should be made to ban any food.

Participants may have unrealistic expectations as to the outcome of community programs. Every effort should be

made to have community members voice their expectations and beliefs. These expectations can then be discussed and replaced by more realistic expectations.

The action to prohibit alcohol illustrated that the usual patterns of communication such as public meetings and small group meetings do not adequately inform all the relevant social systems about community programs. New methods of reaching all community members must be developed in future programs, perhaps, radio programs or newsletters would augment the former patterns of communication.

Delineation of Relevant Social Systems

Relevant social systems for a nutrition program in the community under study would include both fields and target systems.

A. Fields

1. Health Committee: may be involved in the day-to day coordination of the program.
2. Education Committee: may be involved in implementing the program in the school.
3. Teachers: will need to be involved if the school program is to be successful.
4. Local Businesses: may be asked to cooperate by altering merchandising practices.
5. Elders: may serve a legitimation function for the program.

6. Church Women's Group: may serve a legitimation function in the community and members are also members of the target system.
7. Adult Education Classes: may be involved in the implementation of the program.
8. Hamlet Council: may serve to legitimate the program or act as a sponsoring body.

B. Target Systems

1. School Children: school snack or lunch programs may be developed or nutrition classes may be given.
2. Teenagers: special programs requested by teenagers may be developed.
3. Women: cooking classes may be developed to teach meal planning and preparation combining traditional foods and modern cooking methods.
4. General Public: shoppers may be encouraged to increase the number of nutritious foods and decrease the number of non-nutritious foods purchased.

The actual target systems chosen will depend upon the interest and resources in the community at the time the program is initiated.

Initiating Sets

Wherever possible initiating sets should be chosen from existing committees or community groups. In the commu-

nity under study a few key people served on a large number of committees. As a result their time and energy tended to be overtaxed. Several of these key people would be important to the success of a nutrition program although they would not be able to participate in another committee. The Health Committee in particular seems to have several of these key people.

The initiating sets for a nutrition program in the community under study would be the Health Committee; Education Committee; Home Management Consultant, Department of Education; and the Regional Nutritionist, Medical Services.

It is important that these initiating sets discuss and agree on the philosophy, ends, and strategies of the nutrition program before approaching the key leaders.

Legitimation with Key Leaders and Diffusion Sets

In an Inuit community the key leaders for a nutrition program would tend to be involved in the eight fields previously listed. These individuals would also tend to have either the greatest amount of time, for example, the church women or elders; the greatest number of organizational skills, for example, the Hamlet Council, Health Committee, or Education Committee; and the greatest number of communications skills, for example, the teachers, local businesses, and Adult Education classes. For these reasons the legitimation with key leaders would be concurrent with the selection of the diffusion sets.

Definition of Need

It is important at this stage that a concensus be reached between the initiating sets and the relevant social systems as to the nature of the nutritional problem and the need for community action. Only after this concensus has been achieved should the problem be presented to the target systems and public.

Evaluations at this stage should ensure that the diffusion sets have presented the information to the community in a manner which has given the target systems and public a clear understanding of the need for a nutrition program. Every effort should be made to inform all social systems including those which do not wish to be involved in the community program.

Commitment to Action

If the target system and general public are committed to action they will assume a greater responsibility for the implementation of the program. If a commitment to action cannot be achieved the reason must be determined before proceeding and further explanations may be necessary. In certain instances a "dynamic pluralism" may also be necessary.

Formulation of Goals

The action to prohibit alcohol illustrated the need for clearly stated and formalized goals. In order to minimize misunderstandings, fields must understand and explain

to the community the objectives and goals of the program.

The development of a written set of goals, discussed and agreed upon by all relevant fields, is a critical incident that must not be omitted in the program planning.

Consultants involved in this stage must explain to the satisfaction of the relevant fields the range of alternatives possible and the implications of each action.

Decision on Means to be Used

In the same way that formalized goals are necessary, a formal decision on means (strategies) to be used must also be agreed upon. It may be necessary for a small planning group to explore the range of possibilities and present the alternatives to the larger group of relevant fields. A final decision would be made by the larger group after a consensus has been reached. Again the community should be informed of the decisions and the possible implications of these decisions.

Plan of Work

A small working group, perhaps, the Health Committee with additional representation from the relevant fields, would be the most efficient and effective method to develop a work plan. The relevant fields would be presented with the plan of work for approval before any action was taken.

At this stage an evaluation should be taken to ensure that consensus has been reached by the relevant fields on the

goals, strategies and work plans to be used. In addition, the relevant fields should ensure that the community clearly understands and supports the goals and strategies of the nutrition program.

Mobilizing Resources

Background information gathered in the earlier stages of the program should be incorporated into the program at this stage. In addition lines of authority and responsibility for action and reporting should be clearly established. All necessary resources such as personnel, meeting space, food supplies and equipment should be located and prepared for the action steps.

Action Steps

The type of action taken will depend on the goals, strategies, and plan of work determined by the relevant fields. Again the community should be kept informed of the program and its progress.

Evaluation

Throughout the model the need for evaluation has been stressed, particularly, evaluation of the degree of consensus and agreement achieved by the relevant fields and the community.

At the completion of each phase an evaluation of the program should be made. Evaluation steps should involve

all fields participating in the nutrition program to ensure that the stated goals are being achieved. For example, the fields providing nutrition information may subjectively evaluate the effectiveness of their work on a daily or weekly basis. They could provide written reports of their progress and plan the next logical steps in their programs. The community group or committee initiating the program could evaluate the program's effectiveness in reaching the target systems, achieving the stated goals, mobilizing resources, and achieving general community involvement. This could be done every few weeks or months using a formal questionnaire or an informal community meeting or open-line program on the radio. The findings from these evaluations could then be used in the ongoing planning of the program with immediate modifications if necessary.

The consultants from Federal and Territorial government agencies could also use the findings of the community evaluations when assisting the community. In addition, they may use more complicated types of evaluation to determine the effectiveness of the program in achieving the stated goals and, on a long term basis, improving the nutritional status of the community. Before and after data collected from the local agencies could be analyzed to determine if there was a change in community patterns as a result of the program. For example, information regarding dental health could be obtained from dental records; morbidity and mortality statistics may be obtained from the medical

facilities; school attendance records could be reviewed; or nutrition surveys could be conducted.

The types and extent of the evaluation that is performed will depend on the goals of the program and the resources available. However, some form of continuous evaluation is necessary for program planning. A final evaluation on completion of the action phase is also useful as a learning experience for the participating fields (1) to determine if the actions taken achieved the stated objectives and (2) to determine if the nutrition program achieved a community development approach.

Continuation

The relevant systems should consider if further planning and action are necessary to accomplish goals not satisfactorily achieved or to achieve long-range goals.

It is hoped the relevant fields will also explain the community nutrition program to representatives of other Inuit communities, perhaps, at a Health Conference in their region. In this manner, other communities will become aware of a new approach to nutrition programs and may take the initiative to implement such a program in their community.

And finally, the community and relevant systems should consider other programs or areas in which the community development approach would help achieve community goals.

Summary

The information gained from the review of literature and analysis of data was synthesized into a model for a community development approach to nutrition programs. The format closely followed the 34 steps to social action developed by Beal *et al*.[6]

The data gathered in one Inuit community heavily influenced the model development. Although the relevant fields and target systems may vary, it is believed the process described in this model is also suitable for use in other Inuit communities.

Footnotes for Chapter VI

[1] Garth N. Jones, Planned Organizational Change: A Study in Change Dynamics (London: Routledge and Kegan Paul, 1968), p. 8.

[2] Roland L. Warren, Truth, Love, and Social Change and Other Essays on Community Change (Chicago: Rand McNally & Co., 1971), pp. 52-62.

[3] William W. Biddle and Loureide J. Biddle, Community Development Process (Toronto: Holt, Rinehart and Winston, 1965), p. 78.

[4] Freeman H. Compton, "Community Development" Theory and Practice," in Citizen Participation: Canada, ed., James A. Draper (Toronto: New Press, 1971), p. 388.

[5] George M. Beal, Ross C. Blount, Ronald C. Powers, and John W. Johnson, Social Action and Interaction in Program Planning (Ames, Iowa: Iowa State University Press, 1966), pp. 75-89.

[6] Ibid.

CHAPTER VII

A SUMMARY AND REFLECTIONS ON THE RESEARCH EXPERIENCE

The community development process has been used successfully in under-developed areas and third world nations principally to help develop economic and socio-cultural aspects of communities. However, the community development process also has a role to play in the health related aspects of the community.

The central problem of this study was to determine how a community development approach could be adapted for use in health care programs, specifically nutrition programs, whereby present and potential health problems in Inuit communities could be alleviated or prevented.

The objective of the present study was to review the literature and gather data for analysis in order to formulate a model for a community development approach to nutrition programs.

Inuit Communities: Elements of Change

The review of literature discussed several sources of community change and provided a brief history of Inuit communities. It was shown that Inuit communities have

experienced several changes similar to those detailed in the literature.

For example, Nelson categorized community change into four sections: (1) changes in size, (2) changes in physical environment, (3) increased contact with mass society, and (4) changes in the institutional make-up at the pan-community level.[1] Inuit communities have experienced many of the changes noted by Nelson. The most recent changes in size were from small nomadic hunting groups to larger permanent settlements which offered little opportunity to be self-sufficient. The Inuit have also experienced changes in their physical environment: many small camps were combined to form centralized communities and several isolated camps were moved hundreds of miles to populate other areas.

Inuit communities definitely experienced increased contact with mass society. The early explorers, traders and missionaries initiated this contact which continued to increase daily as new resources were developed.

Warren in his description of the "Great Change" listed several changes which have affected the Inuit. The first major change was the division of labour. In Inuit communities the division of labour started when certain Inuit began to work for wages to buy the necessary hunting equipment while others continued to hunt. The division of labour became more evident as the majority of Inuit obtained wage employment and were hired to do one specific task in the community. They no longer had the time to hunt and be self-

sufficient.

Warren also mentioned an increase in relationships with people outside the community borders as a significant change. The introduction of the trading posts and the churches were perhaps the first relationships with outside agencies the Inuit experienced. With time a wide diversity of agencies and organizations developed with bases outside the community borders, such as the local government, churches, stores, government agencies, and the Inuit Associations. There was also an increase in bureaucratization with increased organized efforts to meet social objectives.

The change in the size of communities came about mainly as a result of centralization. However, there was also an increase in the immigration of Euro-Canadians.

The result of these changes were similar to those described by Warren as arising from the "Great Change". There was, for the Inuit community, a decrease in self-sufficiency; a decrease in locality as the central focus; a decrease in the number of interactions between community members; a decrease in community control by the members; and a loosening of the ties of the extended family. It could be said that the Inuit had experienced the "Great Change". It was as Biddle and Biddle suggested important that they also be given the opportunity to become more competent to live with and gain some control over the local aspects of their frustrating and changing world.[2] There was a need for community development and more specifically community

development programs which demonstrated that planned change could achieve positive results.

In the past the Inuit chose to adopt changes without fully understanding the implications of those changes. As a result new problems developed which then required action by the major portion of the Inuit community. Two examples which became progressively more important to the Inuit were nutrition and alcohol programs.

Inuit Nutrition

The review of literature documented several areas of Inuit malnutrition. Several studies suggested that infant nutrition, including breastfeeding, was an important factor in the viability, health, and future intellectual development of the infant. The birth weight of the infant, as influenced by the mother's prenatal nutrition; the duration of breastfeeding or lack of it; and later, the appropriate introduction of solid foods all affected the infant's nutritional status, health, and ability to withstand infections, a major cause of infant morbidity and mortality.

For the preschool children, otitis media with its beginnings between the ages of zero to two years, if not treated successfully continued to stress their nutritional status. Recurrent respiratory infections also produced a nutritional stress. The consumption of large amounts of sugar and refined carbohydrates led to a phenomenal increase

in the incidence of dental carries and the resultant malnutrition.

The nutritional concerns of the Inuit infants and children were perhaps the most obvious and far-reaching for the future of the Inuit community. However, nutritional problems were also identified for the adolescents, adults and the elderly. These included nutrient deficiencies, dental disease, obesity, hypertension and cardio-vascular disease.

The high incidences of malnutrition reported in the literature appeared to relate to the decrease in the consumption of traditional foods and a concommitant increase in the consumption of imported foods of low nutritional quality. Early nutrition programs helped the Inuit to understand the relationship between the foods they consumed and their health or poor health. However, communities were requesting additional information and assistance in program development in order to improve the nutritional status of their children and community. In these cases more than nutritional information was needed; community members also needed to learn to work together to develop new methods and programs to achieve their goals. For these reasons, it was decided to develop a model for a community development approach to nutrition programs. This type of approach would help the community reduce the incidence of malnutrition and would also provide a degree of competence in achieving community goals through a process of planning and action to be used in more complex

situations.

Methodology

Relatively little information had been published relating to the use of a community development approach to health care programs in an Inuit community. Rather than study nutrition programs developed for other ethnic groups, it was decided to use a case study approach of a community action program which directly involved the Inuit. The community action to prohibit alcohol in one Inuit community was chosen for this case study.

The information regarding the prohibition of alcohol was compiled from a review of the literature and informal focused interviews with 15 community members. The major limitations of the study related to its cross-cultural nature and the need for an interpreter.

The sample interviewed in the community consisted of both Inuit and non-Inuit; men and women; and the ages of the interviewees ranged from young adults to respected elders. Individuals who were chosen to be interviewed held responsible positions in the community; had been involved, or were seen to be involved, in the action to prohibit alcohol, and/or were known to be against the existing prohibition.

Seven people were interviewed by the investigator alone. Eight people were interviewed by the investigator and the interpreter. The interviews were held in April, 1978.

Data Analysis

The data were analyzed using the Shapes approach developed by Mackeracher et al.[3] and the steps to social action developed by Beal et al.[4] The four research questions were answered and after analyzing the data seven implications for future programs were discussed. In general the results suggested more effort should be devoted to informing all relevant fields of the goals, philosophy and strategies to be used in the community action, and external consultants should explain all alternatives and possible implications of a community action before action was taken. Evaluation was also considered an important aspect which had been neglected in the action studied.

Model Development

The information gained from the review of literature and analysis of data was synthesized into a model for a community development approach to nutrition programs. The model developed closely followed the steps to social action developed by Beal et al.[5]

The data gathered in one Inuit community heavily influenced the model development. However, it is believed the process included in the model would also be suitable, with minor adjustments, for use in other Inuit communities.

Reflections on the Research Experience

The development of a theoretical model is often easier to achieve than its implementation. Individuals reading the first draft of this model raised several questions regarding its realistic limitations in working with an Inuit community. Shortly after completing the first draft the author had the opportunity to attempt to implement the model. Several of the issues dealt with relate directly to the questions which were asked. The final answers to these questions are still evolving but it would perhaps be useful to address the questions at this time. In the following section a pilot nutrition program will be described, the questions will be listed and a provisional answer or explanation will be given.

In the spring of 1978 a local Health Committee requested a program to help their community learn about nutrition. As a result of their request the Home Management Consultant, Department of Education, and the Regional Nutritionist, Health and Welfare, went to the community to help the Health Committee plan a pilot nutrition program. The Health Committee was the sponsoring body responsible for the administration and monitoring of the program; the consultants offered support services such as training for the workers, educational materials, and on-going participation in program planning and evaluation. The Health Committee applied for a federal government grant to hire three workers to work on the project from October until the following May.

When the program was scheduled to begin the consultants again traveled to the community to proceed with the training program. Unfortunately, the approval for the funding of the project had not been received and the Health Committee was informed they could not hire any workers at that time. The consultants had commitments in other communities which limited the amount of time they could offer for a training program at a later date. The Health Committee was consequently forced to look at program alternatives.

The position of the Health Committee related directly to the first question asked "What if support is not forthcoming from government or other groups?"

The Health Committee decided to proceed with the program without the assurance of government funding. They were committed to the project, because they had identified the need and their early involvement had encouraged their enthusiasm to find a solution. Although the Health Committee made the initial decision to proceed, the community also supported the program. For example, six women applied to work on the project; the Hamlet Council offered working space without charge; the Education Committee agreed to support the program in the school; and the nurses, adult educator, home economics teacher, and school principal agreed to assist the program where possible.

Ultimately, government funding was received. However, the support offered by the community to the proposed program suggests that if a program is well explained and has the

support of a well established and respected community group, the need for governmental (and/or other group) support may be minimal. It should also be noted that when government funding is initially refused, it may be forthcoming at a later date if the community can mobilize its resources and achieve public support to initiate the program.

The second question about the model asked "How is the authority of any actor or action group established?" From personal observations and discussions with people living in Inuit communities it appears that authority is most often established in elected bodies within the community, for example, Hamlet Councils, elected Health Committees, and elected Education Committees. Individuals who are respected and thought capable are elected to these bodies. Committees or individuals appointed by these elected bodies also appear to achieve a certain amount of authority. In addition, those individuals who through past achievements have shown their abilities, such as the elders or heads of respected families, also are given attention and respect which may amount to authority in certain situations.

As an example, in the pilot nutrition program the Health Committee informed the Hamlet Council and the Education Committee about the project and workers who had been hired. Several of the older respected members of the community had been approached to be involved in the program in the very earliest planning stages and it later turned out one or two were related to the workers. Because the program

had the support of the Hamlet Council, Education Committee and Health Committee and because the workers hired by the Health Committee were members of respected families in the community the project was well received from its commencement.

The third question asked "Where does one find the skills or skill training to engage in the steps of the model?" The present Inuit communities have experienced a variety of training programs, workshops, and educational experiences over the last few decades. Several people have attended high school either in Frobisher Bay or in the southern cities. In the larger communities were Hamlet Councils and other committees have been functioning for a number of years there are individuals who have become acquainted with planning and implementing different types of programs. Skill training is also possible within the community with the help of resources such as the teachers, adult educators, nurses, and government consultants, for example, the Home Management Consultant and the Regional Nutritionist.

In the pilot nutrition project the Health Committee chairman had been educated outside the community, was continuing her education through adult education, and had had several years of experience being involved in community programs. In addition, one of the workers was also educated outside the community, a second worker had worked in other communities on different projects, and the third worker had worked on other programs within the community. These indivi-

duals, when their skills were combined and supplemented with assistance from the resources previously discussed, had adequate skills and training to begin a nutrition program in the community using the basic ideas expressed in the model.

The final question asked "How does the ideal model relate to the often chaotic real situation?" The advantage of the model is that it represents only the main ideas for approaching a program and allows a community development worker to isolate and identify those aspects of the program which are essential for its success. However, the model cannot be considered the total answer, the ultimate plan, or the ideal program. It is merely a simplified guide designed to give change agents a sense of direction and remind participants of possible checkpoints in the process. It is absolutely essential that the model remain flexible to accommodate the differences in individual communities and programs. It is also essential that the program be evaluated frequently to ensure that desired objectives can and are being achieved.

The pilot project attempted in one Inuit community suggests the model can be related to a real situation. Interest in the program is spreading to other communities where the flexibility of the model will again be tested. At present it appears it is possible to relate the "ideal" model developed in this research to the chaotic real situations in Inuit communities.

During the months the model was being developed and the pilot program initiated the author was impressed with the cooperativeness and friendliness of the Inuit. Their interest and openness in explaining to the author their past experiences with food and with nutrition programs was extremely encouraging and helpful. The older Inuit are very patient teachers and will go to great lengths to explain the concepts of their culture and traditional lifestyle. This patience is also particularly useful when they are involved in educational programs.

Many Inuit communities are in a state of cultural transition. They are adopting more of the administrative and educational aspects of southern Canada yet they are loath to completely negate the importance of their own Inuit culture. They are proud of their way of life and their people and wish to incorporate these aspects of their culture in the future development of their community.

The intelligence and enthusiasm of the Inuit individuals and their committees potentiates the development of many successful community programs. The challenge to the community development worker is to be able to teach a few basic concepts in a very simple language which can be adequately translated. In addition, the community development worker must be aware of the extensive network of intra-community committees, programs, and departments, and the almost unlimited inter-related agencies affecting the community from outside its boundaries. In some manner the commu-

nity development worker must attempt to identify all the relevant fields both inside and outside the community boundaries in order to legitimate the project and prevent future misunderstandings.

The logical progression of the present study would be to study in detail the effectiveness of the model in the implementation of a community development approach to nutrition programs and to study how community members can act as resources for other communities attempting to implement similar nutrition programs. In addition, a study could be developed to learn how community members could implement in their own community additional community action programs of a more complex nature.

In conclusion the author suggests a community development approach to nutrition programs can reduce the incidence of malnutrition in an Inuit community and help community members to become more competent in achieving their objectives and effecting change.

Footnotes for Chapter VII

[1] Lowry Nelson, Charles E. Ramsey and Coolie Verner, Community Structure and Change (New York: MacMillan Co., 1960), p. 407.

[2] William W. Biddle and Loureide J. Biddle, Community Development Process (Toronto: Holt, Rinehart and Winston, 1965), p. 78.

[3] Dorothy Mackeracher, Lynn Davie and Terry Patterson, "Community Development: Evaluation and the Shapes Approach," Journal of Community Development Society, Vol. 7, No. 2 (Fall, 1976), pp. 4-17.

[4] George M. Beal, Ross C. Blount, Ronald C. Powers and John W. Johnson, Social Action and Interaction in Program Planning (Ames, Iowa: Iowa State University Press, 1966), pp. 75-89.

[5] Ibid.

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